JANUARY 28, 1933

Railway Age

FOUNDED IN 1856

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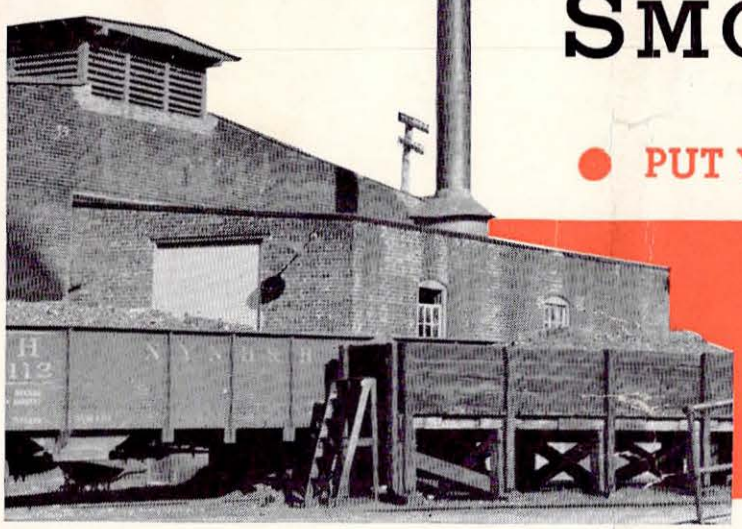
Another WROUGHT IRON SMOKE STACK



New smoke stack fabricated by The Bigelow Co., New Haven, Conn., of Byers Genuine Wrought Iron Plates for New York, New Haven, and Hartford Railroad Company, Stamford, Conn.

● PUT YOUR FAITH IN SERVICE RECORDS

EVERY railway engineer knows that smoke stacks made of wrought iron last longer than stacks made of other metals.

This knowledge is based on significant facts. Wrought iron's record is unsurpassed in combating corrosion at smoke stack temperatures — both externally, due to atmospheric condensation, and internally, due to deposits left by flue gases, soot and acids.

Furthermore, wrought iron, because of its own inherent qualities, does not embrittle or crack, due to sway motions. Also, the typical wrought iron surface holds paint longer.

Such facts as these have been the basis on which wrought iron has been specified for both riveted and welded stacks.

Why not let a Byers Engineer put data on wrought iron for stack fabrication at your disposal? His information includes service records established by wrought iron stacks as well as complete facts and fabrication details. If you will send prints of stack jobs now under consideration to our Engineering Service Department direct, we can show how to use wrought iron to best advantage. A. M. Byers Company, Established 1864. Pittsburgh, Boston, Philadelphia, New York, Chicago, St. Louis, Houston, Los Angeles.

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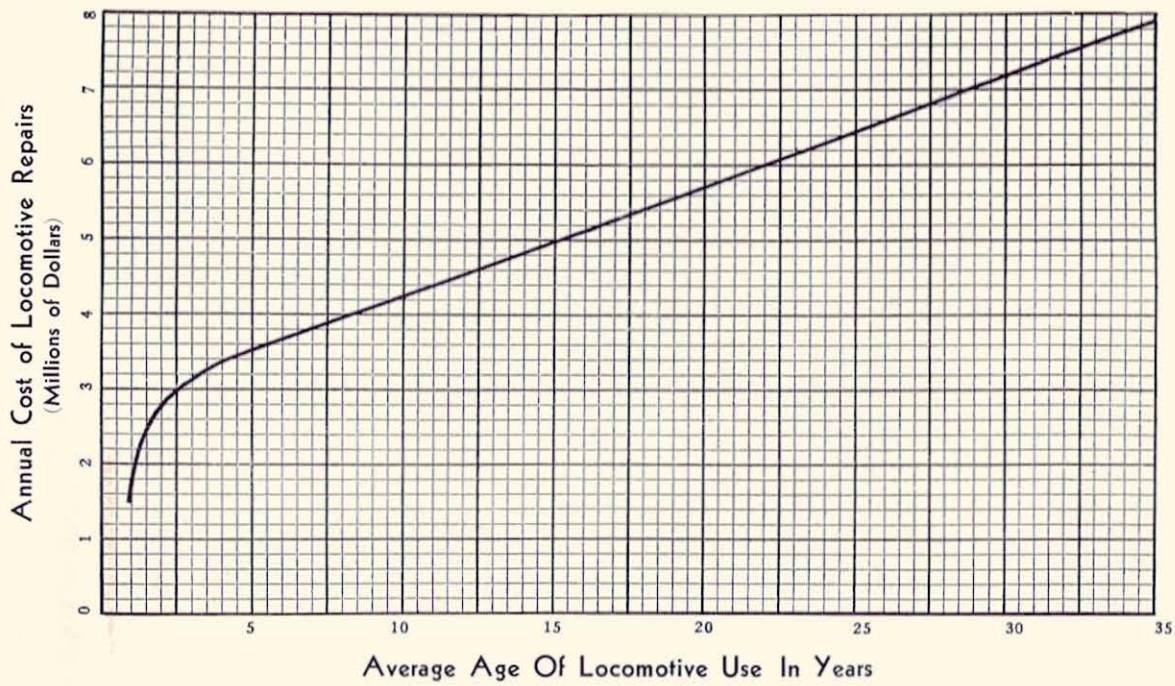
Keep the Power Young!



The cost of locomotive repairs rises with the average age of the locomotive inventory. Here is a fact which is clearly illustrated by the chart based on an inventory of 750 locomotives. The repair cost rises rapidly during the first four years and shows a steady increase thereafter as the average age of the locomotives increases.

Let us take concrete figures based on this inventory of 750 locomotives.

At an average age of 10 years the total cost of repairs per annum is $4,230,000.

At an average age of 20 years this figure becomes $5,700,000, an increase of almost 35 per cent.

It is obvious that there is a point where it is no longer economical to maintain old locomotives, and that substantial savings can be made by retiring them and replacing with new power, thus keeping down the average age of the inventory.

A careful survey of railroad motive power will show the economies which will result from a systematic replacement policy.

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS

PHILADELPHIA

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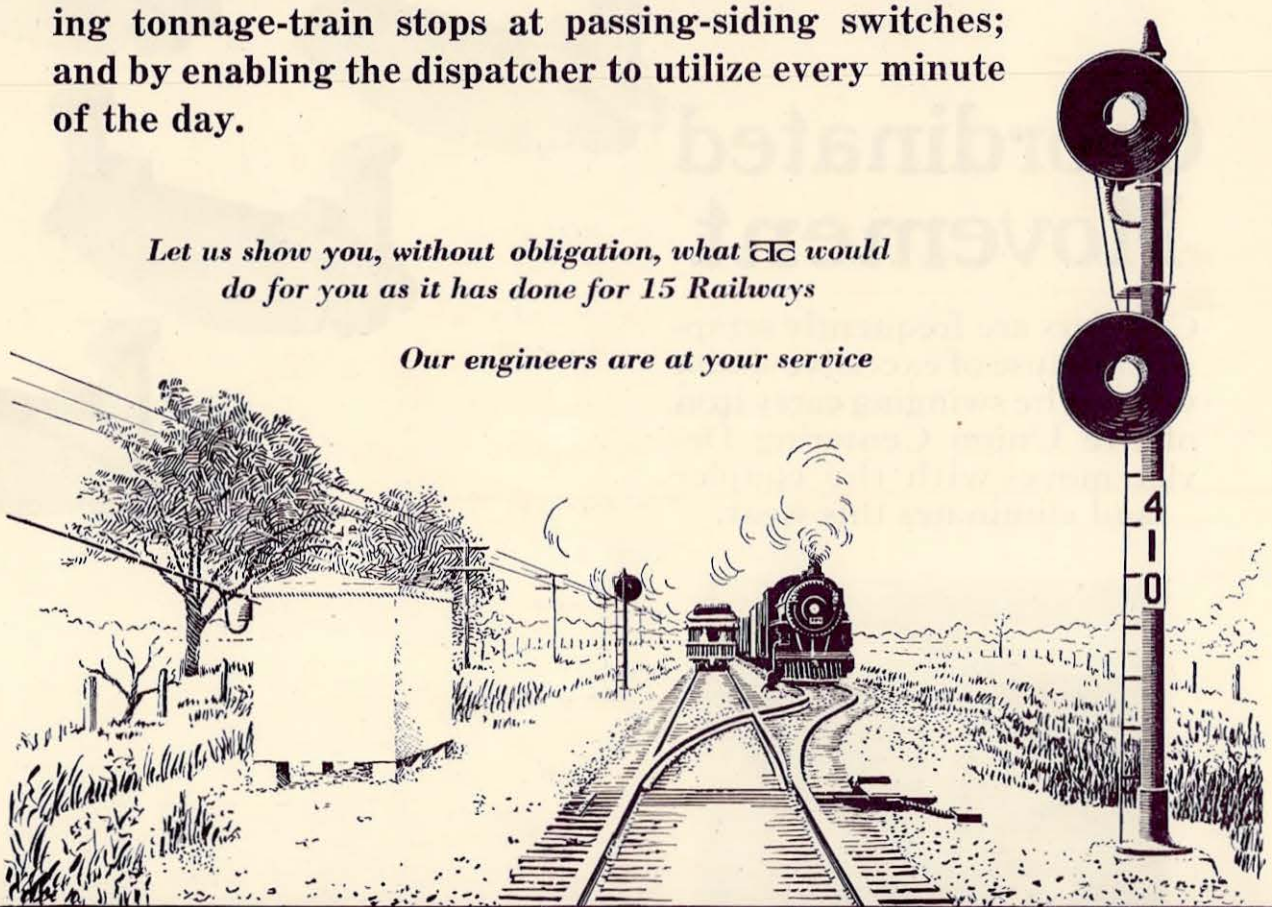

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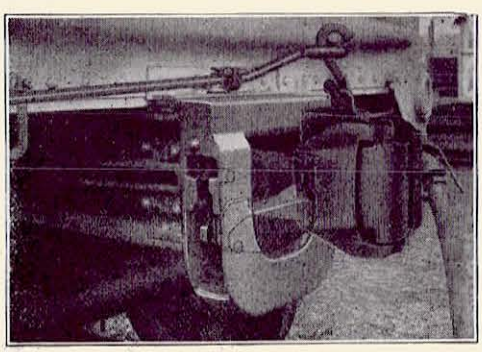

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Railway Age

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Vol. 94 January 28, 1933 No. 4

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Long and heavy trains can be operated more efficiently and with greater safety and reliability with the new "AB" brake equipment.

Hearings on Pension Legislation 111

A report of railroad testimony before a sub-committee of the Senate committee on interstate commerce during hearings on the rival bills introduced by Senators Wagner and Hatfield to provide for a compulsory system of pensions and retirement insurance for railway employees.

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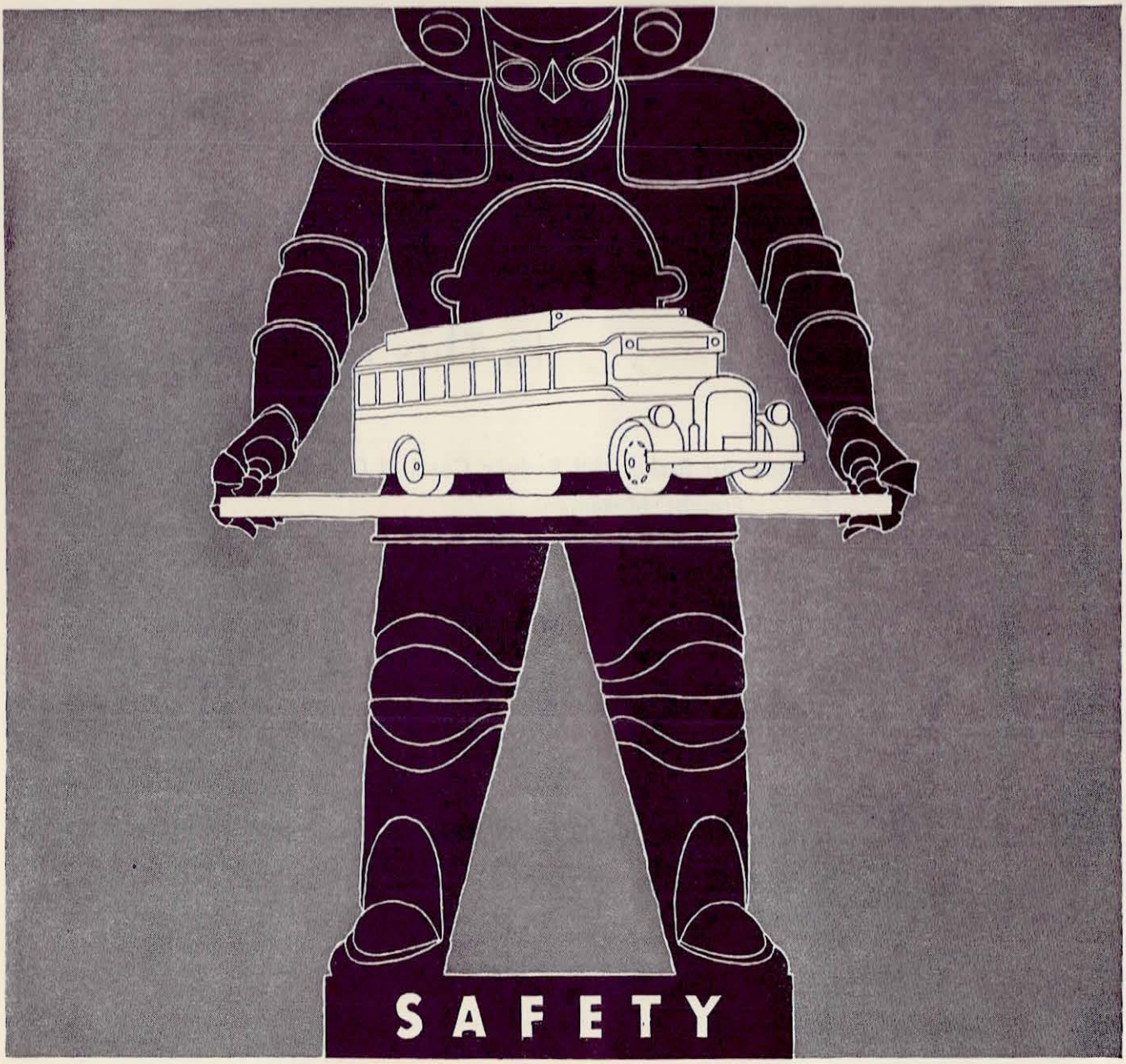

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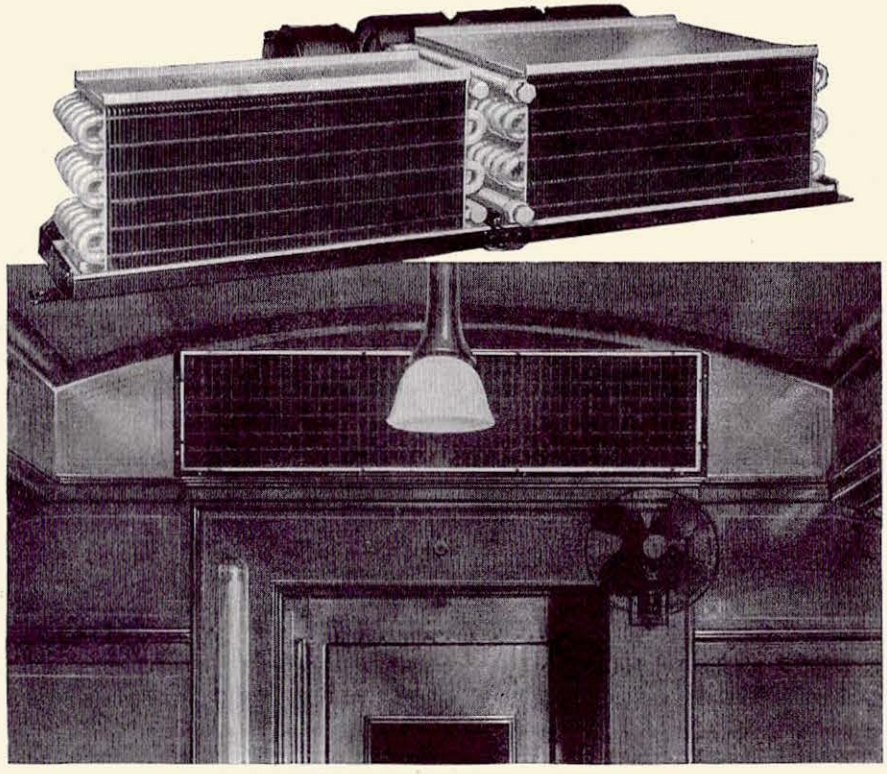

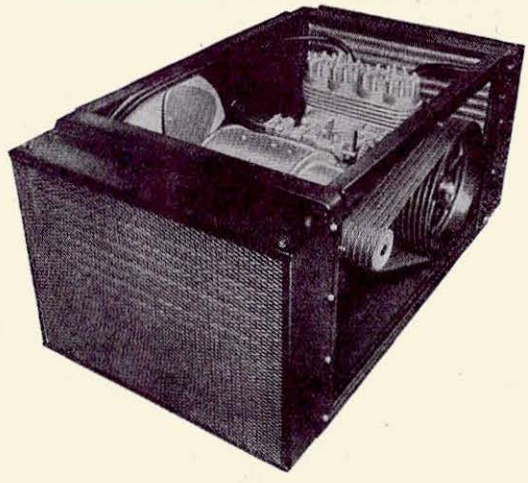

One of Frigidaire's new railway air conditioning coils and a typical installation in the bulkhead of Pennsylvania Coach No. 3601.

●

Left—A new Frigidaire complete condensing unit—powerful but light in weight—easily installed under the car frame, eliminating necessity for taking up revenue producing space. Only 62¾ inches long, 28 inches high, and 35 inches wide.

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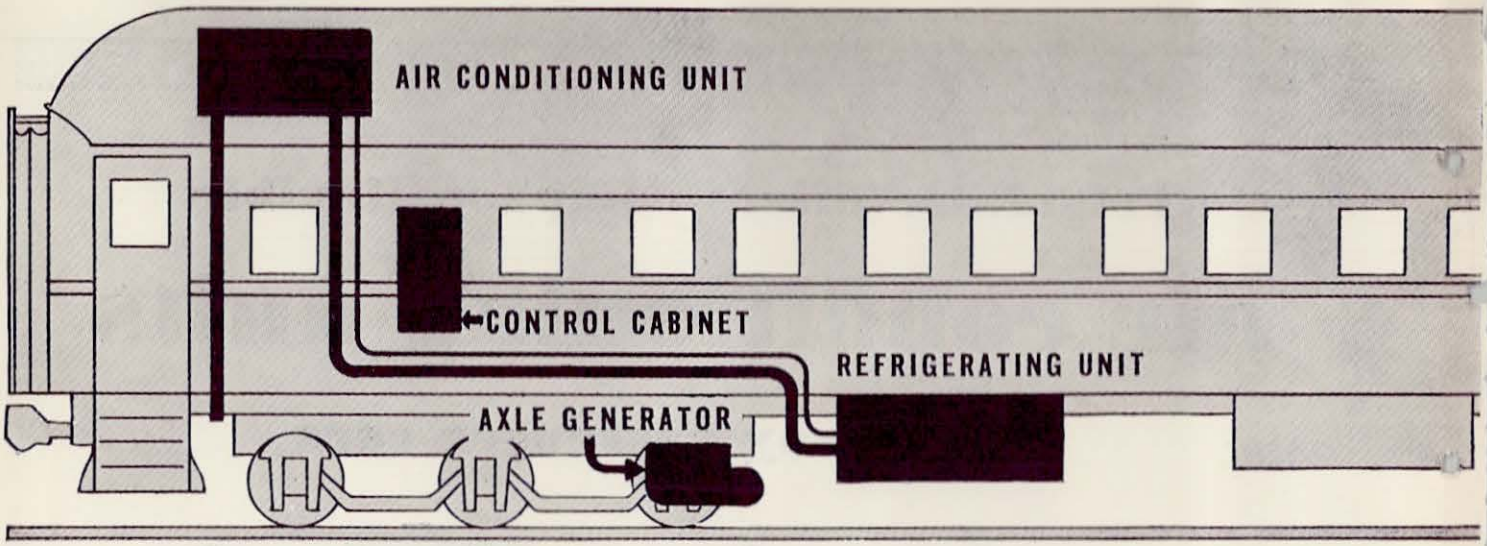
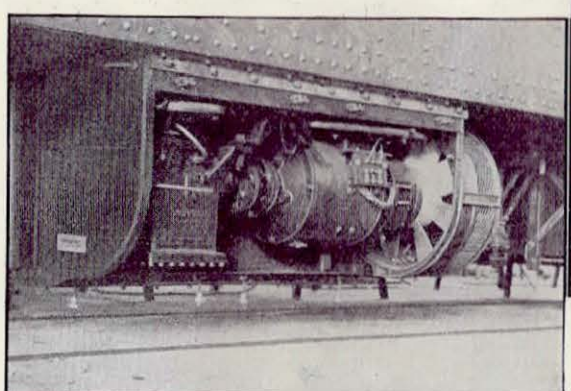
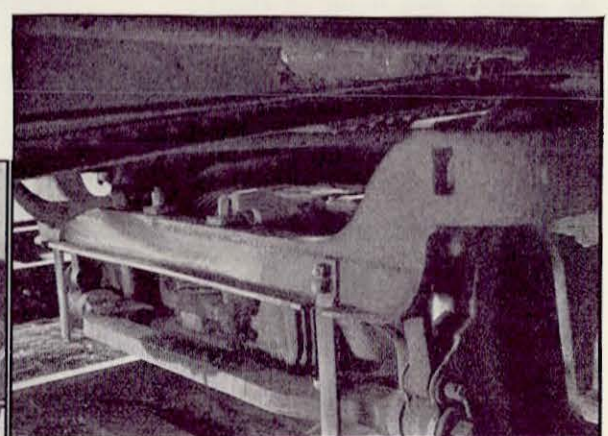


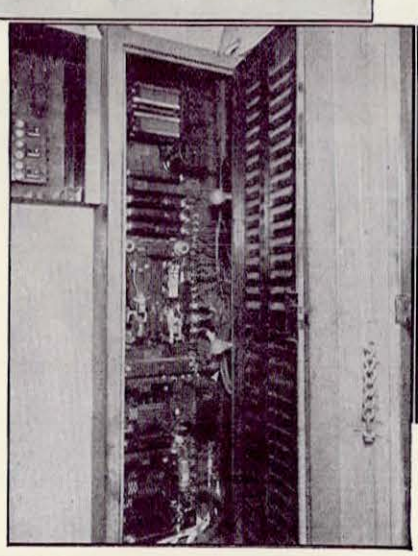
IT IS EASY TO INSTALL THIS

REFRIGERATING

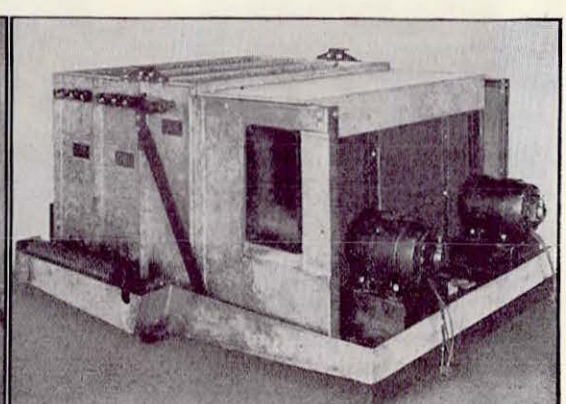




GENERATING

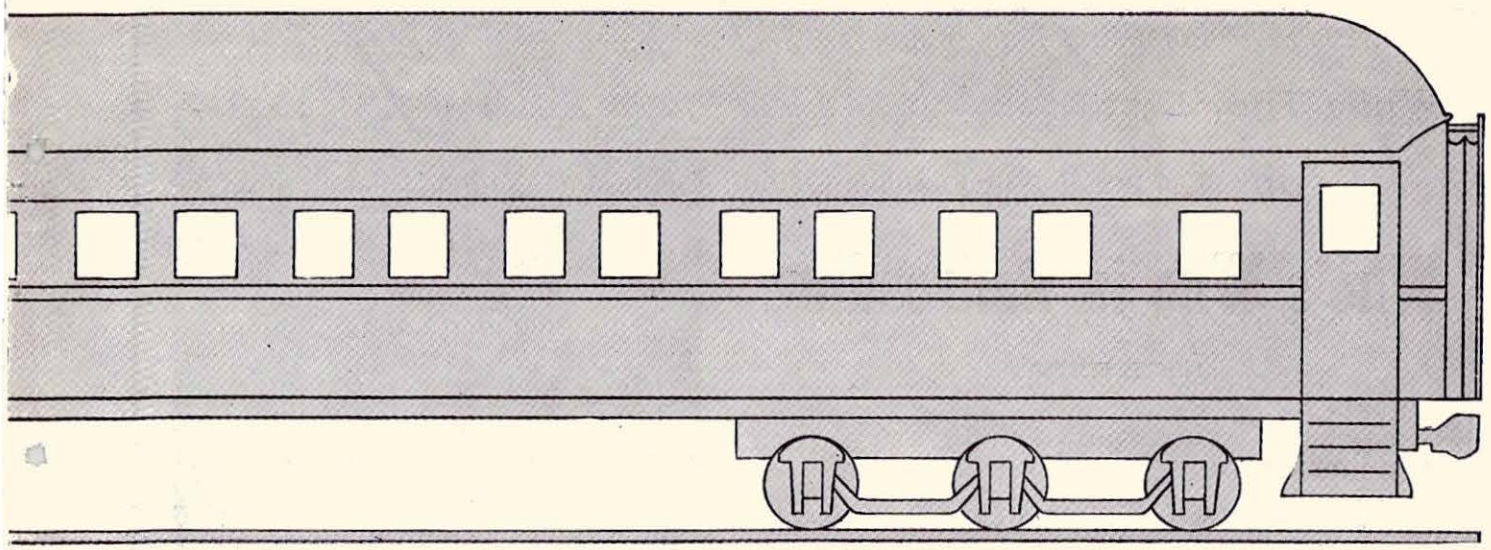


CONTROLLING



AIR CONDITIONING

COMPLETE AIR CONDITIONING



AIR CONDITIONING SYSTEM

THE ease and speed with which Westinghouse air conditioning equipment has been installed by regular railroad shop crews testifies to its simplicity and its adaptability to existing passenger cars. No extensive alterations to the car structure are necessary.

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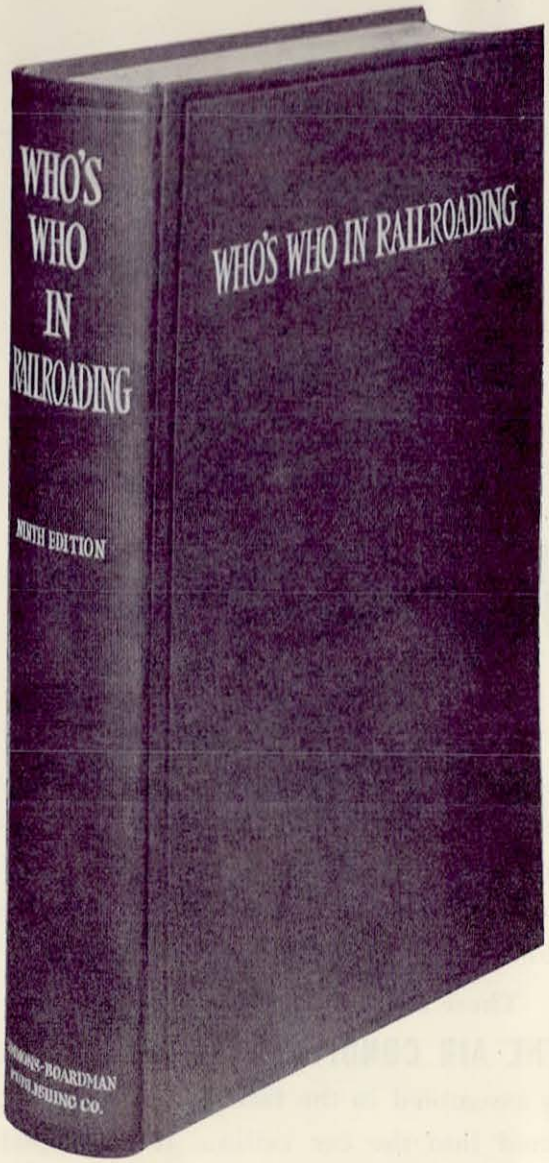

6x9x1¼ inches; 585 pages; 3858 biographical sketches; bound in royal blue cloth or in library buckram

Review Opinions

"The new Who's Who includes "men who, while not actually employed by railroad companies, are nevertheless railroad men in the broad sense of the term."—*Engineering News-Record.*

"This is a convenient and well edited volume, giving salient biographical data about leaders in the railroad field . . . The biographical sketches include much personal information about each subject as well as the significant facts of his business career. —*The Journal of Commerce, New York.*

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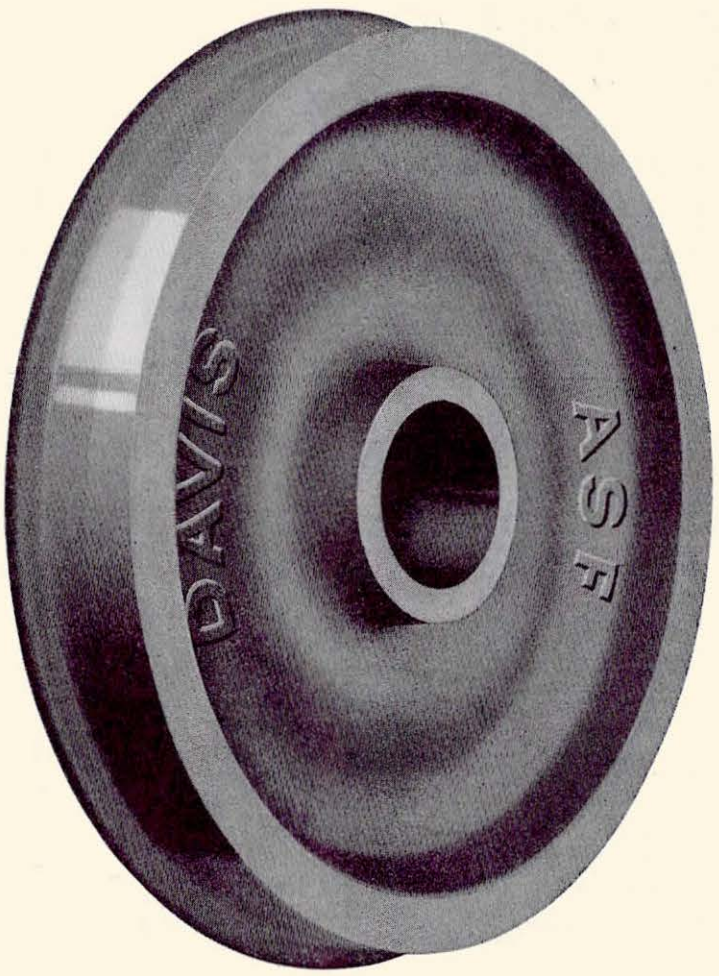

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The Davis heavy service multiple wear wheel has the strength of heat treated manganese steel with high resistance to impact and abrasive wear.

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A standard car is economical.

Then why not a standard roof?

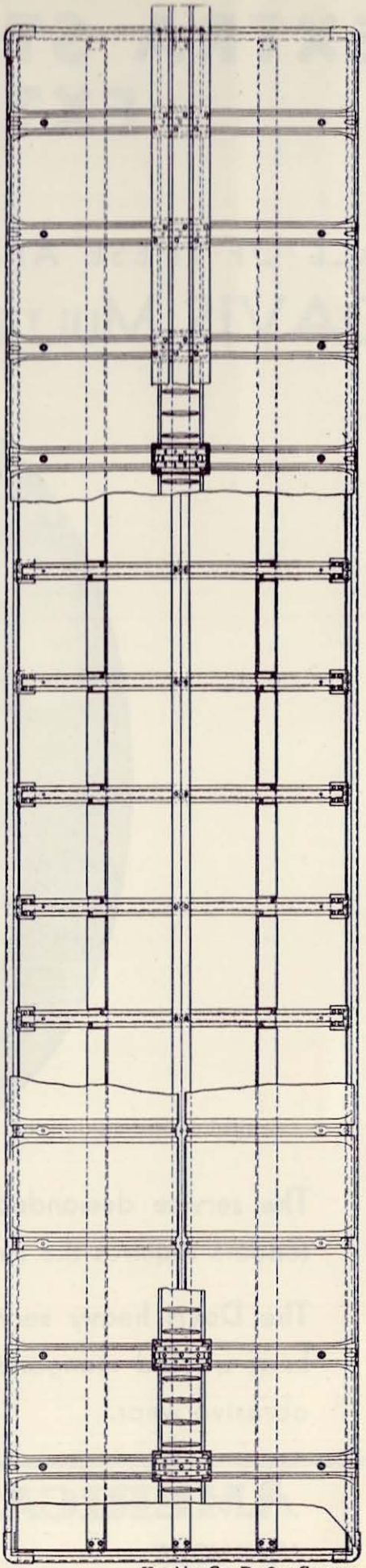
A riveted roof is certainly not a standard roof. (*It is standard only for the size and design of car for which it was made.*)

A standard roof must be a roof that has one size and one design parts that will fit any and all new cars of any size and design, also all existing cars operating on standard gage tracks.

The UNIVERSAL DRY LADING ALL STEEL ROOF is such a roof —it has one size and one design parts and is adjustable.

Some have a mistaken idea that a Riveted roof holds the car frame the strongest and most rigid. Figure it out for yourself. You will find that it is really the Universal roof, it has longitudinal members (not found in any riveted roof). Plan view shows why—it is patterned after the underframe of a car.

Inspection of cars shows Universal roofs are outwearing Riveted roofs respectively one to two.



Hutchins Car Roofing Company

RAILWAY AGE

"Railroad Versus Automobile"

Nothing so stimulates the display of egotism as swift attainment of "success" due largely to favorable circumstances. A few years ago the country was flooded with temporary millionaires who could tell the world how to succeed as long as a rising stock market made them fictitious profits which a subsequently falling stock market quickly turned into much larger real losses. Likewise, within recent years the automobile industry, largely due to favorable conditions, has had a mushroom growth, owing to which some men in it have attained a fortuitous success which has convinced them that they are deputy Providences. An interview with Paul G. Hoffman, president of the Studebaker Sales Corporation, which appeared in the Chicago Tribune of January 15, shows that he esteems himself one of these deputy Providences. The interviewer said, "he talked without restraint of modesty on the accomplishments of automotive engineers." He also talked without restraint of intelligence regarding railway management and the engineers of railways and of railway equipment manufacturers; and in an editorial in its issue of January 21, entitled "Railroad vs. Automobile," the Chicago Tribune gave his views its inexpert blessing.

"If the automobile industry were managed like the railroad industry," said Mr. Hoffman, "we'd still be chugging over the highways behind two-cylinder engines in high buggies with hard tires." "To railroad men," said the Tribune's editorial, "the interview must have read like a series of studied insults directed at exposing their incompetence, their backwardness and their stupidity." What it did read like to railroad men was a series of studied insults inspired by flatulent vanity and ignorance of railroading, and given free publicity because of the large amount of advertising the automobile industry does. "As far as is apparent to the customers," said Mr. Hoffman, "the only improvement in railroading that has been made in the last year is that passengers are now served tea on the crack trains between Chicago and New York." What does Mr. Hoffman read and how does he travel if he has not heard of the introduction of air conditioning of passenger cars—one of the greatest contributions to the comfort and health of the traveling public ever introduced in the history of transportation?

Railway and Automobile Engines

"At the head of the train," said Mr. Hoffman, "is a steam engine little different from the locomotive of thirty years ago." L. A. Downs, president of the Illinois Central, truly replied, in an interview, "There is every bit as much difference between a modern locomotive and the kind that was built fifteen years ago as there is between the motor of a 1933 model automobile and the motor of a 1918 model." As Mr. Downs pointed out, the modern passenger train is pulled four or five times as far without changing engines as it was by the locomotives of a few years ago. Furthermore, in spite of tiresome and malicious reiteration to the contrary, the average speed of passenger trains has been greatly increased within recent years.

The only true test of any machine is what it will do. For more than twenty years the manufacturers of steam locomotives have had to meet the competition of the engineering and sales departments of the manufacturers of electric locomotives, backed by the demonstrated success of numerous railway electrification projects. More recently the steam locomotive has been confronted with the competition of the Diesel-electric locomotive, also actively promoted by progressive manufacturers. Everybody who knows anything about the railroad business knows that the steam locomotive has been able to hold its place in transportation only because of the many improvements in its design and equipment that have been made. In 1920 the average freight train weighed 1,450 tons and moved an average of 10.3 miles an hour. In 1932 the average freight train weighed 1,691 tons and moved an average of 15.5 miles per hour. Simple computations based on these figures show that average gross ton-miles per freight train-hour in 1932 averaged 75.5 per cent more than in 1920. Between 1920 and 1932 the fuel consumed by the average freight locomotive in rendering 1,000 gross ton-miles of service was reduced from 197 lb. to 121 lb., or 40 per cent, and the fuel consumption of passenger locomotives was reduced correspondingly. If

these improvements in the results of railway operation do not demonstrate that there was great progress between 1920 and 1932 in the development of steam locomotives and in railway management, we do not know what kind of facts are required to prove progress.

Efficiency in Automobile and Railway Plants

How much progress was made meantime in increasing the efficiency of the automobile engine? Automobiles of given weights appear to consume as much or more gasoline per mile as 15 years ago. Confirmation of the inexpert automobile users' impression that as a consumer of fuel there has been little or no improvement in the automobile engine for years seems to be afforded by a statement made in an address in New York on January 10 by one of the highest engineering authorities in the automotive industry, Charles S. Kettering, vice-president of General Motors and head of its research laboratories. "We don't know yet what combustion is," Mr. Kettering was quoted as having said. "Right now we are only able to get five per cent efficiency out of gasoline. * * * When we know more about combustion a gallon of gasoline should be able to propel an automobile from 300 to 400 miles." If there had been as little progress in increasing efficiency in the use of fuel in steam locomotives as there has been in increasing the efficiency of the use of fuel in automobiles, the fuel bill of the railways would not have been $340,000,000 less in 1929 than in 1920.

Management and engineering in the automobile industry are required not only in designing and selling cars, but in producing them in manufacturing plants. The automobile industry is a new one. The railroad industry is comparatively an old one. Some statistics given by Doctor Frederick C. Mills in his recent book, "Economic Tendencies," with regard to the automobile industry, show how rapidly some kinds of progress decline in an industry as its age increases. Between 1899 and 1914 the output of the automobile manufacturing industry per employee increased 284 per cent. Measured by this standard, it was during these years the leader in 35 manufacturing industries for which Prof. Mills gives data; and it is generally assumed to have continued to be a leader in mass production.

Between 1923 and 1929, however, the automobile industry stood twenty-eighth in a list of 62 manufacturing industries in the increase of its output per employee, which was only 11.5 per cent. Between the same years the increase in the average output of ton-miles per railway employee was 20 per cent. This was a period of declining railway passenger business, but when passenger-miles and ton-miles are equated in the usual way it is found that between 1923 and 1929 average output of traffic units per railway employee increased 14 per cent. If the managements and engineers of the automobile industry are so incomparably superior to those of the railways, why did they fail during this period to secure relatively as large an increase in output per employee in their new industry as was secured in the older railroad industry.

Initiative and Accidents

"Let the railroads use the initiative, ingenuity and fearless aggressiveness of the automobile manufacturers," says Deputy Providence Hoffman. "We have a revolution in style and performance every five years in normal times." Yes, automobiles are built to last, and usually do last, about five years, while railroad locomotives and cars are built to last 20 years or more. How much would railroad transportation cost the American public if depreciation on locomotives, cars and other parts of the railroad plant had to be written off as fast as on automobiles, and they had to be scrapped as rapidly? "The automotive engineer has done much to improve seat cushions and back rests," says Mr. Hoffman, "but nothing has been done to make the day coach chair any more comfortable." A manufacturer of seats for both buses and railway coaches immediately replied, "There is not one railroad of any size that has not equipped a great number of its day coaches with comfortable bucket type chairs mounted on rotating bases, and there is probably not a road today which does not contemplate a complete seating change-over to this type of extremely comfortable seating just as soon as general business conditions pick up."

Mr. Hoffman referred to improved braking and other means that have been adopted to increase the safety of automobile operation. Well, there is some evidence that increases in the safety of automobile construction and operation are needed in the fact that about 34,000 persons are being killed and about one million injured annually on the highways of this country. Between 1920 and 1931, when motor vehicles were making a shambles of American highways, the number of passengers carried on the railways of the United States for each one killed increased from 5,500,000 to 15,000,000, the number of railway passengers killed in 1931 being only 40. Mr. Hoffman contrasts unfavorably the dead weight of railway cars per passenger with the dead weight of automobiles per passenger. Railway cars are so heavy principally because they are made strong enough to protect passengers, and when automotive and highway engineers can show a record of highway safety remotely comparable with the record of railway safety it will become possible for an American citizen to mention the subject of highway accidents without a shame equalling the pride with which he can refer to railway safety.

"Can you name the chief engineer of any railroad in America?" asks Mr. Hoffman. "They're veteran mechanics promoted for seniority in service. Automotive engineers include a lot of bright young men highly specialized in technical training," etc. Admittedly there are great engineers in the automotive industry; but

Mr. Hoffman's description of the principal engineering officers of the railways was as deliberately malicious as it was deliberately false. Furthermore, engineering for the railways is done largely by the great manufacturing companies from which they buy locomotives, cars, rail, signaling apparatus, etc.; and Mr. Hoffman's ignorant contrasting of automotive and railway engineering therefore stigmatized a large part of the entire engineering profession of the country, manufacturing as well as railroad.

Railways, Buses and Automobiles

Mr. Hoffman points out that the railways are still losing passenger business to the private automobile. Buses are designed and made by the same manufacturers that design and make private automobiles. If the railways' losses of passenger business to the automobile are to be attributed to the superiority of the management and engineering of motor manufacturers, how are we to explain the increasing complaints of bus operators that they, as well as the railways, are losing business to the automobile?

The animus of such interviews as that of Mr. Hoffman and other similar utterances that are emanating from men in the automotive field is obvious. The railways are trying to get legislation that will subject commercial operators of buses and trucks to reasonable regulation and deprive them of subsidies. Having no pertinent facts or valid arguments to present against the railway program, spokesmen of the motor vehicle interests, while hypocritically professing concern regarding the railway situation, are trying to divert attention from the real issue between themselves and the railways by misrepresenting the railway program and trying to destroy public confidence in railway management. Fortunately, there is no evidence that their efforts to bespatter railway managements are having any tendency to divert public attention from the plain fact that there must be changes in the highway policies of the state and national governments if the tactics of operators of motor trucks, backed by the truck manufacturers, are not to reduce freight rates and commercial practices to chaos and prevent the public from having good and adequate transportation service rendered at reasonable cost.

The Myth of Motor Transport Taxation

In frank emulation of the *Railway Age*, which, in its December 3 issue, presented a complete portrayal of the railway situation which was distributed widely among legislators and other influential citizens, the publication "Bus Transportation" has issued for distribution to a similar mailing list a number setting forth the claims of commercial highway transport.

We recommend this issue to our readers without stint. Here and there in it—particularly in the advertising pages—is to be found a statement of opinion which is reasonable and pointed and which will advance public understanding of transportation problems. But we recommend the issue to railroad readers principally because the repeated misleading discussions of so-called "taxation" of commercial motor vehicles which it contains indicate the lengths to which the railways' enemies are forced to go to make a case for their dole-supported activities.

The trick in the discussion of taxation which appears in many places in this publication lies in the inclusion as taxes of payments made for license tags and in the levy on gasoline. These payments are not a tax at all, but are in reality an inadequate rental payment for the use of public property as a place of business. If any one doubts this, just witness the hullabaloo these interests are raising against using any of their license or gasoline payments for other than highway purposes. If such payments made by owners of buses and trucks are to be classed as taxes, then the railroads ought to petition the Interstate Commerce Commission for a revision of the accounting classifications permitting them to charge as taxes the expenditures they make for maintenance of way and interest on the investment in it.

It is an indisputable fact that a tax levied for the support of the general functions of government—police protection, schools, etc.—is quite different from a payment made to the government for a specific economic service. All the payments which the railroads call taxes fall into the former category and are actually taxes in the strict meaning of the term. Of the total payments made by commercial motor vehicle operators, only the sums they pay as property taxes or in levies upon their net income (in the case of buses, only 11.5 per cent of their total payments according to "Bus Transportation") can be fairly compared with railroad taxes. And against such minute contributions from motor transport to general taxation, should be deducted the general taxes which are used for highway purposes, to ascertain what—if anything—motor transport pays in net taxes fairly comparable to those the railroads or other industries and property owners pay.

The distinction between real taxes and fees for special services is recognized by all reputable authorities on public finance. All railroad tax payments belong in the former category; all but a small fraction of the levies on motor transport are in the latter. If commercial motor transport spokesmen do not happen to have read any of the standard writings on this subject, they at least have access to the *Railway Age*, and attention to this distinction has been drawn time and again in these columns. The only conclusion we are able to draw, therefore, is that they choose to disregard the facts and to protect themselves as best they may behind a campaign of deliberate public deception.

New Air Brake Will Reduce Costs of Operation and Facilitate Freight Movement

Long and heavy trains can be operated more efficiently and with greater safety and reliability

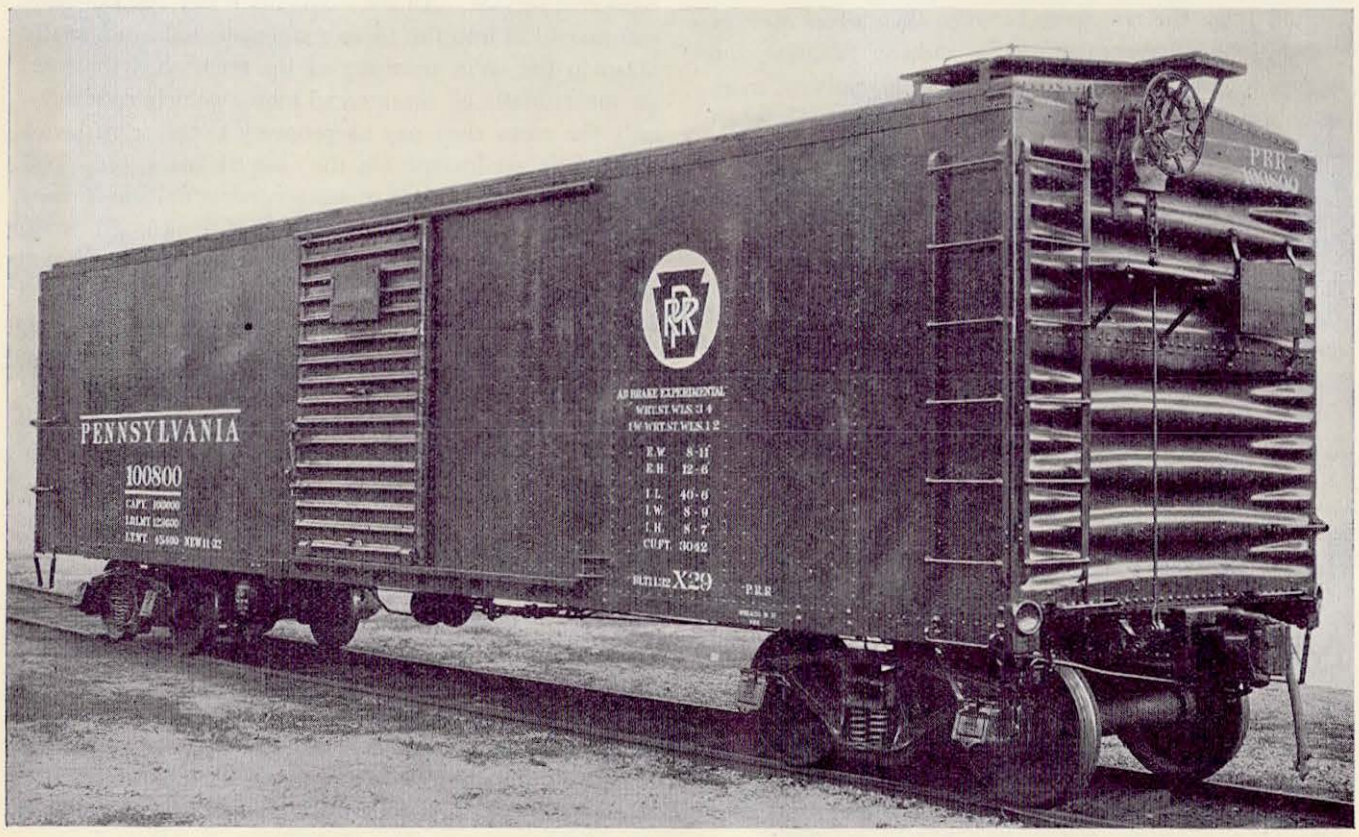
COL. HENRY G. PROUT, in his "Life of George Westinghouse," made this significant statement: "The humanitarian service of the air brake in saving life and personal injury appeals first to the imagination of the public, but that is the least of its services to mankind. In the reduction of the cost of carriage it has helped to 'change the face of society.'*" We stand today on the threshold of entry into the fourth major epoch in the development of the air brake—and it gives promise of still greater advantages in improving the transportation service and reducing its costs for the benefit of mankind.

The invention of the simple straight air brake in 1868 and the tests made by the American Railway Master Mechanics' Association in September, 1869, as well as the development of the triple valve in the years immediately following, marked the first era; the Burlington tests in 1886 and 1887 and the successful adaptation of the quick action air brake for use on freight trains, inaugurated the second era; the introduction of the type "K" triple valve for freight service in 1905 and the use of the electro-pneumatic brake for high speed electric trains marked the beginning of the third era; and now the development of the Westinghouse type "AB" equipment to meet present-day freight train operating conditions establishes a new bench mark.

* Abram S. Hewitt, in accepting the Bessemer Medal, which was awarded to him in 1890 said: "The Bessemer invention takes rank with the great events which have changed the face of society since the time of the Middle Ages."

Operating Demands Becoming More Exacting

Briefly, the new air brake will make possible the safe, expeditious and efficient handling of freight trains containing up to 150 cars. It overcomes the limitations of the present air brake in meeting the modern exacting operating conditions in the effort to reduce the costs of transportation. It will interchange with the present equipment and, indeed, will help to "pep up" or vitalize it during the period of transition. It has been so designed as to insure low inspection and maintenance costs.



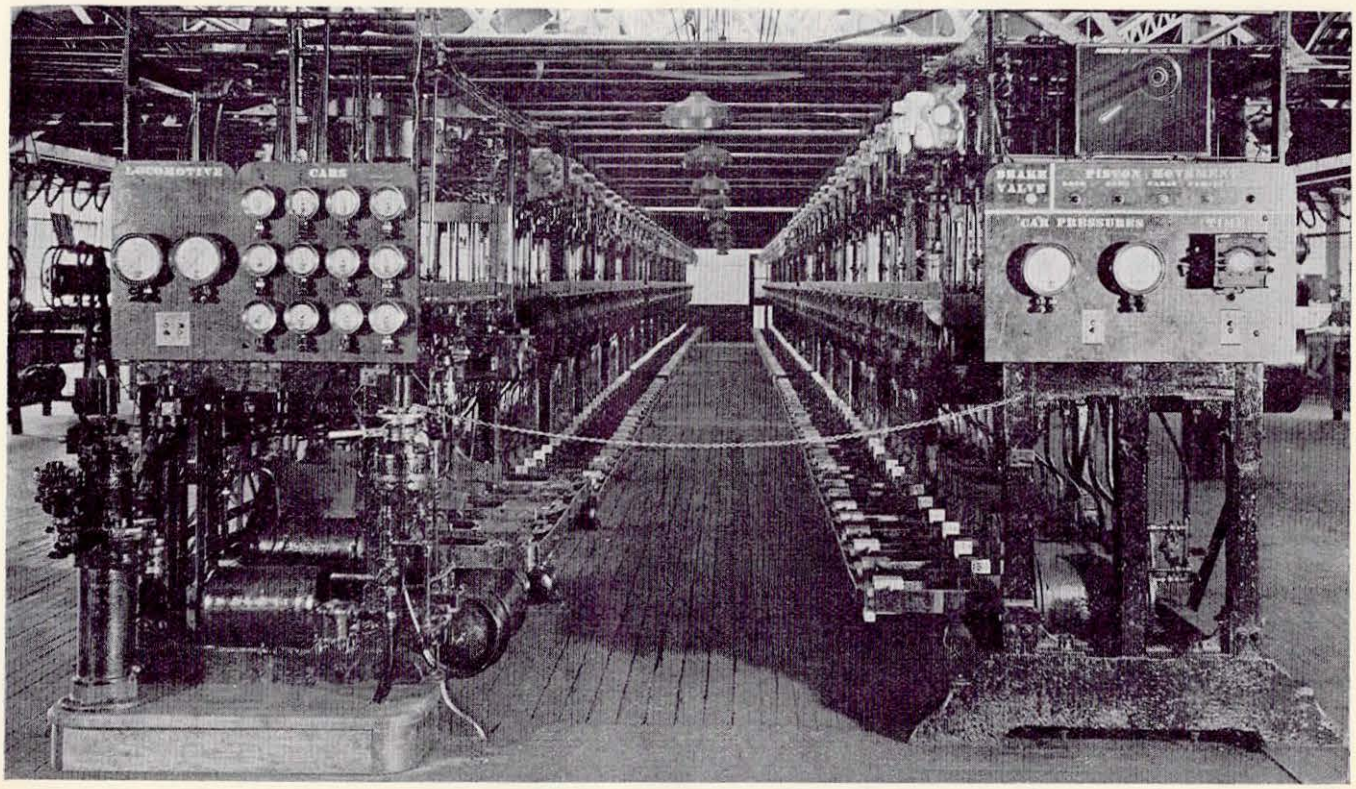
The Pennsylvania Railroad is Equipping 925 Fifty-Ton Box Cars with the "AB" Brake Equipment

Members of the American Railway Association Safety Appliance Committee and Air Brake Experts Meeting with W. P. Borland, Director of Bureau of Safety, Interstate Commerce Commission, Wilmerding, Pa., November 29, 1932

First row: R. L. Kleine, J. J. Tatum, C. J. Bodemer, A. L. Humphrey, W. P. Borland, F. W. Hankins, V. R. Hawthorne, H. A. Johnson, C. E. Chambers.
Second row: J. B. Wright, J. P. Kelly, C. H. Beck, Frank McDonald, C. A. Rowan, G. A. Blackmore, C. C. Farmer.
Third row: J. N. Haines, J. P. Laux, S. G. Down, C. D. Foltz, W. F. Peck, Robert Burgess, J. C. McCune, R. Boiselle.

The past decade of railway history will probably always stand out in relief because of the striking improvements which have been made in more efficient, reliable and economical freight train operation. Cars have been loaded more heavily, the miles per car per day have been increased and the freight handled much more promptly. Many factors have been responsible for these improvements—better management; improved track, roadbed and equipment; radical changes in train handling and yard operation, including the installation of car retarders; greater utilization of locomotives, involving longer locomotive runs; improvements in signaling, and a more intelligent understanding of the use of signals in speeding up operations and cutting down costs of operation. These are only a few of the more outstanding factors; the entire railroad organization from top to bottom has met the challenge of the day for faster, more reliable, cheaper and safer service—but splendid as the advance has been, the railways will have to continue to improve their services to meet the competition of other types of transportation, which have manifested themselves in recent years, and to keep in step with the exacting demands of this mass production era.

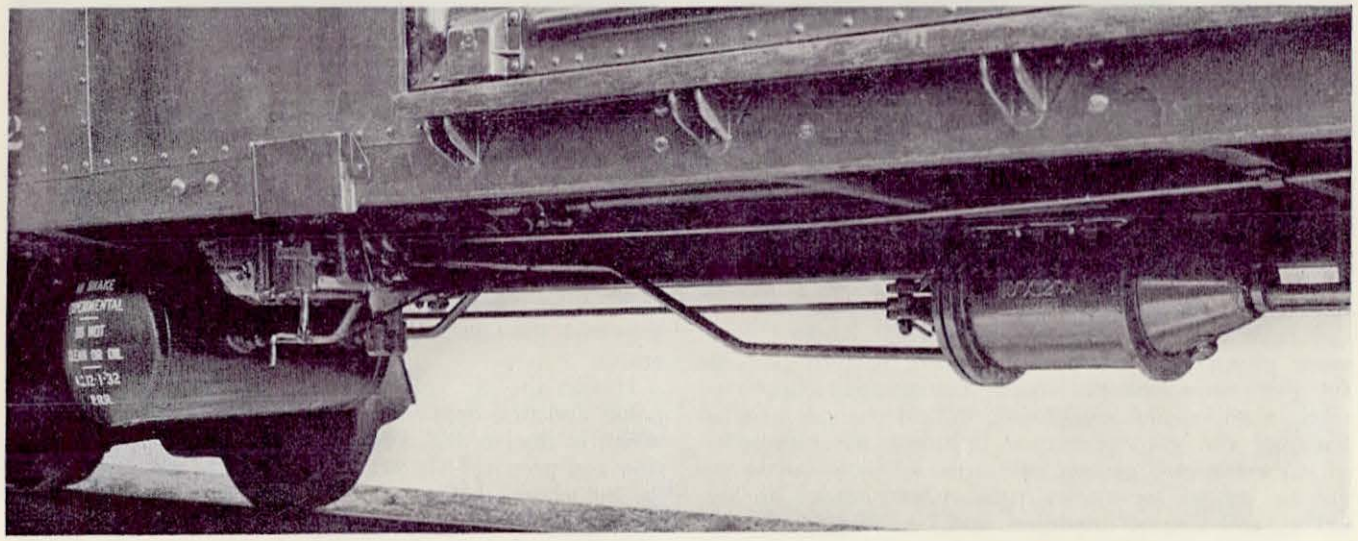
It was the air brake, invented by George Westinghouse and first applied to passenger equipment in 1869, which in the late 80's revolutionized freight train operation and prepared the way for the mass production era in industry. Information developed in the famous Burlington air brake tests in 1886 and 1887 made possible the perfecting of the air brake to meet freight train operating conditions at that time. Obviously, with a device of such vital importance, used on equipment interchanged on all the railroads, the task of introducing



150-Car Air Brake Testing Rack at Wilmerding, Pa.

improvements has not been an easy one, even though changing conditions make insistent demands for such improvements.

Colonel Prout in his "Life of George Westinghouse," comments on this problem in these words: "But all the later forms of Westinghouse brake apparatus, ranging from the plain automatic brake of 1872 through various types of quick-action automatic brakes to the standard form of today, show the desirability, if not the necessity, of having each succeeding type of brake interchange and operate harmoniously with its predecessors, and this point has never been lost sight of. This very practical consideration as a limiting condition has been one of the most difficult factors in the development of brake apparatus of sufficient flexibility and power to meet the ever-changing demand incident to the introduction of heavier tonnage cars, more powerful locomotives, higher speeds, and increased length of trains."



The "AB" Equipment as Applied to One of the Pennsylvania Railroad Box Cars

Necessity for Better Brakes

Operating conditions had so changed by the early part of the present century that the "K" triple valve was introduced in 1905. It was never designed, however, for trains of such great weight and length as it has been necessary to haul in recent years in the effort to operate with greater efficiency and economy, and several years ago it became evident that radical improvements must be made in the air brake if it was desired to continue and extend the operation of freight trains of 100 cars or more.

In July, 1924, the Interstate Commerce Commission stated that improvements in the operation of power brakes are essential and must be effected. Later the Commission issued tentative specifications for power brakes which would better meet the conditions. The air brake experts over the years have consistently and aggressively studied this problem as the requirements have become more and more exacting. The results of their work are dramatized in an exhibit at the Westinghouse Air Brake Company's plant at Wilmerding, Pa., illustrating the various forward steps which have been suggested and experimented with since the type "K" triple valve was introduced.

Air Brake Tests

The suggestion of the Interstate Commerce Commission preceded the comprehensive and thorough series of studies and tests made under the direction of the Mechanical Division of the American Railway Association in the laboratories of Purdue University and in the so-called Siskiyou road tests on the Southern Pacific. The new Westinghouse "AB" brake equipment is the final result of these tests. It combines in a commercial design those features which were demonstrated in the tests to give the best results. It is not an experimental design, for the various distinctive features have been thoroughly tested in service and laboratory tests.

The Pennsylvania Railroad is now applying the "AB" equipment to 925 freight cars and a demonstration of the brake will shortly be made under the auspices of the Mechanical Division of the American Railway Association, following by 64 years a similar demonstration made on the same railroad of the first Westinghouse straight air brake as applied to passenger trains.

Bench Marks of Progress

In 1888 when the first quick action triple valves were applied on freight cars, the tests were made with a train of 50 cars, the average length of the cars being about 35 ft. The process of equipping freight cars with the new brakes was of course a slow one. On June 30, 1890, for instance, only 78,475 freight cars of a total of 918,491 were equipped with train brakes. Five years later, June 30, 1895, 295,073 freight cars, out of a total of 1,196,119, were so equipped. The first Interstate Commerce Commission statistics giving the revenue tons per train were compiled for the year ending June 30, 1890. The figure for that year was 175.12. We do not have a record of the revenue tons per loaded car. In 1905, when the type "K" triple valve was introduced, the revenue tons per train had increased to 307.76 and the revenue tons per loaded car were 17.72.

Some idea of the transformation which has taken place since 1905 can be gained from the fact that for the year ending December 31, 1929, the revenue tons per train had increased to 718.13 and the average revenue tons per loaded car had risen to 24.52. When the type "K" triple valve was introduced in 1905 the Master Car Builders' Association had only a 50-car air brake test rack and it was necessary to delay the testing of the "K" valves at Purdue University until a 100-car test rack could be built. The recent road tests were made with 150-car trains. The Westinghouse 150-car test rack of today at Wilmerding, Pa., has 50 ft. of pipe per car, or slightly under a mile and a half in all.

The average capacity of a freight car in 1905, when the type "K" triple was introduced, was 30.8 tons, but in 1930 it was 46.9 tons. The average tractive force per locomotive in 1905 was 23,660 lb., while in 1930 it was 45,225 lb. We must remember also that the freight locomotive of today is designed to maintain a high sustained power and many of them operate at speeds approximating those of passenger trains. Truly, a radical change in freight train operating conditions has thus taken place since 1905.

Safety, and Loss and Damage

Two exceedingly important types of campaigns have been aggressively conducted by the railroads in recent years, which have tended to focus more or less attention upon the condition of equipment and its safe operation. The inauguration of the organized effort to reduce to a minimum the loss of lives and injuries to passengers and employees began a little more than two decades ago, or several years after the introduction of the type "K" triple valve in 1905.

Organized efforts to attack the problem of reducing loss and damage to equipment and lading were first inaugurated on a considerable scale a few years after the safety first movement started. A series of articles on defective box cars and damaged freight, published in the *Railway Age Gazette* in 1912, did much to direct attention to this particular phase of the problem. Under the changed operating conditions it has become increasingly evident that improvements must be made in the air brake to insure safer freight train operation, if further marked progress is to be made in the reduction of injuries to persons and damage to equipment and lading.

The New Brake and Its Operation

Among the new and desirable characteristics of the Westinghouse "AB" brake equipment, the following stand out most prominently:

Preliminary quick service. (a) Effective throughout entire length of long trains in level service. (b) Automatically compensated to conform with operating conditions in grade service.

Accelerated service application.

Service release insured.

Quick recharge following service operation.

Emergency at any time.

Protection against undesired emergency application.

Accelerated emergency transmission.

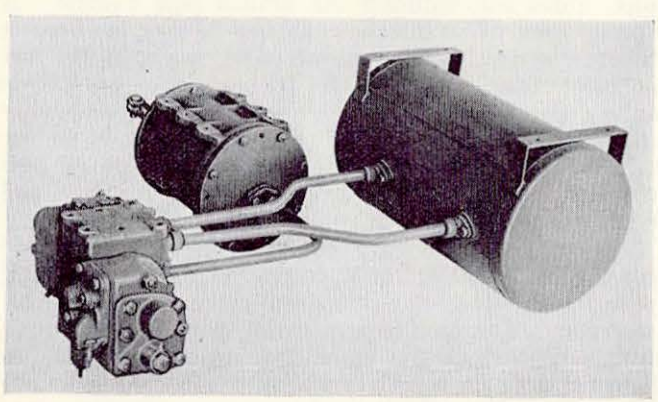
Controlled development of brake cylinder pressure.

Higher brake cylinder pressure in emergency.

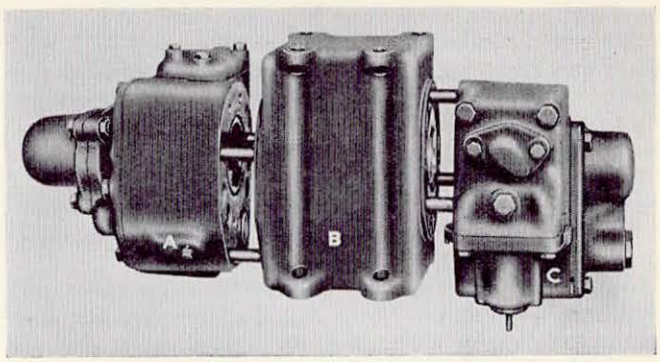
Positive release following emergency.

Restricted release of brake cylinder pressure.

Improved means of brake cylinder lubrication.



"AB" Triple Valve, Brake Cylinder and Reservoir Assembly



The "AB" Valve Consists of Three Distinct Parts—The Emergency and Service Portions and the Pipe Bracket

A—Emergency portion. B—Pipe bracket, which contains quick action chamber and brake pipe strainer. C—Service portion.

Effective protection against leakage and dirt.

The essential parts of this new equipment are the "AB" valvular device; a double compartment reservoir —auxiliary and emergency; and a brake cylinder having several distinctive improvements.

The "AB" valve consists of three sections—the service portion, the emergency portion, and a pipe bracket arranged for permanent attachment to the car, which contains the quick-action chamber and the brake pipe strainer. Separation of the emergency from the service functions prevents the occurrence of undesired quick action during a service rate of reduction, without impairing the desired quick-action feature. The bracket mounting of the valve permits either portion to be removed without disturbing any pipe connections.

Service Applications

The service portion is so designed that the two basic requirements in securing prompt train retardation with smooth slack control—dependable and fast propagation of service application—are attained to a degree heretofore unrealized. Not only can the engineman set the brakes lightly or heavily, as circumstances dictate, but also he can accomplish the successive application of brakes with a rapidity never heretofore attained. With a 150-car train equipped with the new brake the engineman can cause all brakes to apply, even when the brake pipe has its maximum tightness, with a five-pound reduction in equalizing reservoir pressure, whereas with a similar train, equipped with "K" triples, less than half of the brakes, perhaps, will respond to such a reduction. Also, such a reduction with the "AB" equipped train will produce 10 lb. pressure in each brake cylinder throughout the train, where with a "K" train some three or four pounds only will be obtained. All valves are sure to apply, even on the longest train (irrespective of varying slide valve friction, which is uncontrollable), and that with effective pressure because of the improved quick service feature. Moreover, the propagation rate of service application is more than twice as fast as with the present standard, and is practically uniform with all degrees of brake pipe leakage.

Great difficulty is encountered in maintaining the air brake system and its piping in such a way that the leakage of air will be kept within reasonable limits. In recent years, however, in the effort to save fuel and cut down operating costs, the railroads generally have been able to keep very well within the limits which were established for permissible leakage, and under which conditions the type "K" triple valve was designed to operate. The fact that the rate of air leakage has been materially reduced has adversely affected the efficiency

of operation of these valves. The new "AB" triple valve, on the other hand, gives excellent service under these new conditions and, as a matter of fact, will operate effectively with "bottle tight" or no-leakage conditions. Obviously, reliability of action under varying conditions is absolutely necessary. Brake pipe leakage, as well as the general condition of the valve, has little influence on the performance of the type "AB" equipment, whereas both of these factors affect the "K" performance materially.

While the quick service feature provides for a predetermined minimum brake cylinder pressure for level road operation, when cycling on descending grades and the brake is re-applied while the retainer is in holding position, the quick service activity is reduced so that it is possible to re-apply the brakes without a heavy increase in cylinder pressure. This makes for greater uniformity and flexibility of brake operation, assuring safe and smooth control of greater tonnage trains, with more uniform distribution of wheel temperature and brake shoe wear. The improved quick service feature, which assures such an effective and efficient brake throughout the entire length of long trains in level service, is thus automatically modified to conform with the best operating conditions for grade service.

The service portion of the "AB" valve has been so designed that the detrimental effects of high differential to release have been entirely overcome; irrespective of what their slide valve differential may be sluggish valves cannot cause a "stuck brake." The importance of the improvement in release characteristics, especially for long train operation, can scarcely be over emphasized. As a result the number of train delays, parted trains, overheated wheels, burned brake shoes, and slid flat wheels will be materially reduced.

Two important factors combine to effect improved release functionings: (1) An emergency reservoir is provided to recharge the auxiliary reservoir during the initial stages of a release, thus conserving brake pipe air and permitting quick restoration of its pressure throughout the train. (2) A simple means is used to assure that the valve will always move to release position when the brake pipe pressure is but 1½ lb. above that in the auxiliary reservoir, even though the frictional resistance of the valve may be abnormal.

Emergency Applications

The emergency portion of the valve embodies many functional improvements. An emergency application can be obtained at any time, irrespective of the existing state of brake application and release.

Grade crossings and the increasing number of automotive vehicles have emphasized the desirability of so designing the brake that the engineman can make an emergency application shortly after he has initiated a service application. Before reaching a grade crossing, an engineman may apply his brakes in service, but thereafter circumstances may arise which cause him to wish to stop in the shortest possible distance—a situation which calls for an emergency brake application. With "K" triple valves an emergency application cannot be secured if the brakes have once been applied in service. With the "AB" brake, however, an emergency application is obtainable under all circumstances.

Adequate protection against undesired emergency application is also provided, thereby eliminating the hazards due to unintentional "dynamiting" when service application is intended, etc. The propagation rate of quick action is the fastest ever produced in any practical pneumatic equipment. (From 700 to 900 ft. per second for quick service and 930 ft. per second for emergency.) The build-up of brake cylinder pressure, however, is so regulated that train slack is controlled without damaging shocks, and the final brake force available for stopping the train is greater than with the present standard equipment.

The development of pressure in the brake cylinder in emergency takes place in three stages. First, the cylinder pressure builds up rapidly to about 15 lb. in order that the brake shoes may be brought quickly in firm contact with the wheels; second, the pressure builds up slowly during the period of slack adjustment; and third, pressure is built up rapidly to the maximum value. The maximum value of the cylinder pressure from an initial charge of 70 lb. is 60 lb., or an increase of 20 per cent over the maximum pressure obtainable in service. Since an emergency application is always available, 60 lb. cylinder pressure can be procured whenever wanted, provided that the car reservoirs were originally charged to 70 lb. pressure.

It is obvious that the second stage, during which slack adjustment occurs, can be shortened if slack adjustment has previously been brought about by a service application. Consequently, the "AB" triple is so arranged that the second stage is proportionately shortened to correspond with the degree of cylinder pressure existing when the emergency application is initiated. The second stage disappears completely if a prior service application has resulted in about 30 lb. cylinder pressure. The mechanism which controls the development of cylinder pressure in emergency is so devised that variations in control are readily available.

Release After Emergency

Following emergency operation, the release of every brake in the train is effected quickly and dependably. Since the "AB" brake develops 60 lb. emergency cylinder pressure, means have been incorporated in the valve which obviate the necessity of restoring the brake pipe pressure above 60 lb. in order to accomplish a release. If it were necessary to charge the brake pipe to more than 60 lb. to effect a release after emergency, the release would be slow and uncertain. The brake has been so designed, therefore, that when a release after emergency is initiated, after the brake pipe pressure has increased to a predetermined value, air from the auxiliary reservoir and brake cylinder flows for a predetermined time to the brake pipe. As a result of this novel arrangement, the brake pipe pressure is increased and the auxiliary reservoir pressure decreased, which combination brings about a prompt and certain release.

Other Special Features

The dirt collector used with the new equipment is of improved design. It is combined with the cut-out cock and is attached directly to the bracket, thus eliminating pipe joints and reducing the branch pipe volume. A special form of strainer is embodied in the pipe bracket to prevent dust that is too fine to be caught by the dirt collector from reaching the packing rings and slide valves, thus greatly extending the life and dependability of the brake.

Reinforced flanged unions are provided for all pipe connections to insure permanently air-tight joints, and eliminate pipe failures at connections.

The combined auxiliary and emergency reservoirs are constructed of welded steel, instead of cast iron, greatly reducing the weight as compared to the single auxiliary reservoir. The auxiliary reservoir performs the usual function, whereas the emergency reservoir serves to help recharge the auxiliary reservoir after a service application, and supplements the auxiliary during emergency application to provide a higher brake cylinder

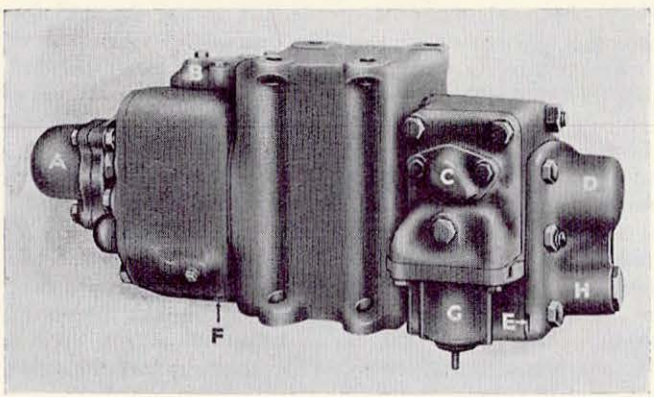
pressure. A duplex release valve is placed on the service portion to permit draining one or both of the reservoirs.

Brake Cylinder

Improvements in the brake cylinder insure that it will remain air-tight over greatly extended service life, and that the time between cleaning periods may thereby be lengthened, to the end that maintenance costs due to this operation will be greatly reduced. It has a packing cup of the non-leakable WABCO material, which is of a special form that eliminates the necessity for follower plates and bolts with their attendant leakage. The piston head assembly embodies a felt swab which lubricates the cylinder walls. A connection is provided so that the cylinder can be relubricated by external means, without necessity for dismantling. The piston rod is also equipped with packing rings to prevent the entrance of dirt and moisture, the necessary "breather" being placed on the non-pressure head.

Mixed Trains

A considerable time will be required, even under the most favorable conditions, to replace all of the air brake equipment now in service with the new "AB" equipment.



Front View of the "AB" Valve

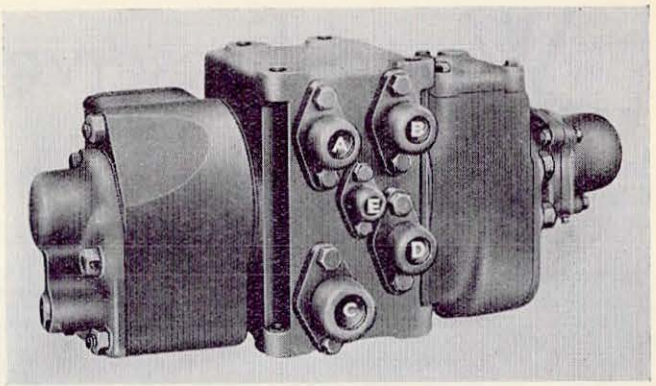
A—Accelerated emergency release cap. B—Cover with quick action chamber protection check and accelerated release check. C—Quick service limiting valve. D—Release insuring cap. E—Quick service volume exhaust. F—Quick action exhaust. G—Duplex release valve. H—Release insuring valve.

A most important question, therefore, is as to how the new equipment will operate in combination with the old. Service and laboratory tests demonstrate that the use of "AB" equipment in trains with the type "K" triple valves makes the operation of the train brakes as a whole more effective than with the "K" valves alone, so that a steady improvement in the efficiency of operation can be looked forward to as the number of "AB" equipments in service increases.

Savings Which Will Be Effected

The "AB" freight brake equipment makes possible the safe and efficient operation of trains up to 150 cars in length. It weighs 497 lb., or only about 47 lb. more than the "K," and is of relatively simple construction.

The fact that the working parts are designed for long life and are protected against leakage and dirt, will greatly reduce the maintenance costs. It is specially designed with a view to facilitating inspection and cleaning, and it is expected that the interval between such inspections and cleanings can be extended from the 15 months now required, to 36 months or longer. (The interchange rules were changed January 1, 1933, increasing the periodical cleaning of air brakes from 12 to 15 months. Instructions as to the type "AB" were also



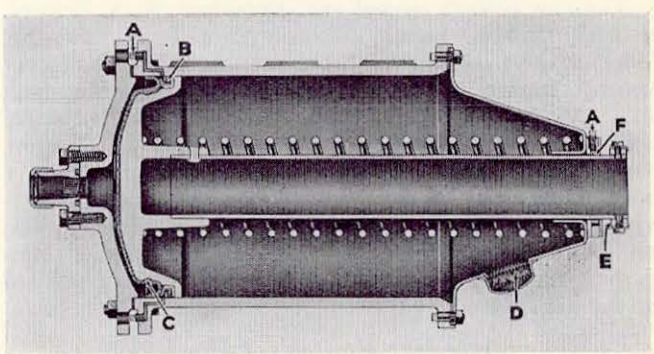
"AB" Valve, Showing Pipe Bracket Face and Re-inforced Pipe Fittings

A—To auxiliary reservoir. B—To emergency reservoir. C—To brake pipe. D—To brake cylinder. E—To retaining valve.

issued as follows: "In order to determine the average length of time these new brake equipments may be operated in service without being cleaned and lubricated, periodical attention must not be given them until a defect develops. Therefore, the type "AB" valve and brake cylinder must not be cleaned nor lubricated.") Entirely aside from the operating advantages, this saving in maintenance costs will largely offset the increased expense of the new brake.

In addition to these, there will, however, be other important savings. The positive action of the new brake will practically eliminate the interruption of train schedules and yard movements caused by uncertain brake action. The number of slid flat and damaged wheels will be reduced. Loss and damage to both lading and equipment, as well as personal injuries due to inadequate brake functioning, will be reduced. Savings will be made because of being able in many cases to slow down without stopping; less time will be consumed in releasing the brakes after stops; it will be possible to operate at higher maximum speeds on the level, and with increased tonnage down grade. Time will be saved in releasing the brakes after trains have been separated on crossings, or when taking water, etc. There will also be a saving in brake shoe wear, due to the more uniform distribution of brake pressures on all the shoes in a train.

It is impossible to make an accurate estimate of all of these savings on the railroads at large, but the aggregate will without question insure more than an adequate return on the investment in the new brakes—an investment which must be made because of the inadequacy of the present brakes to meet modern operating conditions, as was so pointedly stated by the Interstate Commerce Commission in 1924, or more than eight years ago.



Cross Section of Improved Brake Cylinder

A—Connections for relubrication. B—Felt swab. C—Snap-on cylinder packing. D—Hair strainer. E—Protecting sleeve. F—Metallic packing.

Wood Preservers Make Progress

Creosoted Ballasted Pile Trestles Are Rendering Long Service Life

Reports presented at twenty-ninth annual convention show advance in technical knowledge and plant practice, and demonstrate effectiveness of treatment

FOUR out of seven papers and reports presented at the "Users Day" session of the twenty-ninth annual convention of the American Wood-Preserver's Association, held at Chicago, this week, were concerned exclusively with the applicability and service rendered by treated wood in railway tracks and structures, while a fifth, covering poles, was also of interest to railway men. This fact, together with the attendance at the various sessions of a considerable number of railway officers, is evidence of the close relation between the wood preservative industry and the railways, which continue to offer the primary market for treated wood.

The convention was held on Tuesday, Wednesday and Thursday at the Hotel Sherman, with President Elmer T. Howson, western editor of the *Railway Age*, in the chair. The first session was opened with an address of welcome by Alonzo J. Hammond, president of the American Society of Civil Engineers. Among the railway officers who participated in the program was D. C. Curtis, chief purchasing officer of the Chicago, Milwaukee, St. Paul & Pacific, who presented a paper on the Economic Selection, Treatment and Use of Crossties. A special session held jointly with the Western Society of Engineers on Tuesday evening was devoted to the presentation of a paper by Earl Stimson, chief engineer maintenance of the Baltimore & Ohio, on the Economic Value of Treated Timber, Now and in the Future. Both of these papers will be abstracted in a later issue. The convention was attended by 183 members and 95 guests.

The new officers elected are: President, R. S. Belcher, manager treating plants, Atchison, Topeka & Santa Fe, Topeka, Kan.; first vice-president, S. R. Church, consulting engineer, New York; second vice-president, F. D. Mattos, manager treating plants, Southern Pacific, San Francisco, Cal.; secretary-treasurer, H. L. Dawson, Washington, D. C., (re-elected); members of executive committee, H. R. Duncan, superintendent timber preservation, Chicago, Burlington & Quincy, Galesburg, Ill., and W. P. Conyers, Jr., treasurer, Taylor Colquitt Company, Spartansburg, S. C. Houston, Tex., was selected as the next meeting place.

President Howson's Address

Shortly after calling the convention to order President Howson reviewed the developments within the industry during the last year, referring particularly to the high standards of association work that have been maintained in the face of exceptionally difficult conditions. He spoke particularly of the decline in the demand for crossties, part of which has been due to the natural effect of longer life resulting from preservative treatment and part to deferred maintenance on the part of the railways. He called attention to the fact that even in recent years the normal requirements exceeded 100,000,000 ties annually, whereas by 1929 they had fallen to 75,000,000 and will ultimately, with universal treatment, find a level at about 60,000,000 to 65,000,000. However, owing to under-maintenance of the railways during the last three years, after full allowance has been made for the effect of treatment, the present deficiency in tie insertions amounts to 60,000,000, approximately a full year's normal renewals, which must be made up in the relatively near future.

What of Inflammability?

An important place was given on the program to discussions of the inflammability of wood, both from the standpoint of treatment to develop fire resistance and the effect of preservative treatment on inflammability, compared with untreated wood. The fire-proofing of wood was covered in a progress report on experiments conducted by T. R. Truax, C. A. Harrison and R. H. Baechler at the United States Forest Products Laboratory, the results to date being summarized briefly in the following statement taken from the report.

Analysis of the data on the various chemicals tested indicates that no single compound is an ideal fire retardant. None of the single chemicals tested appear to possess in combination a high degree of fire resistance, low cost, resistance to leaching, and freedom from objectionable features, such as corrosion of metals, interference with gluing and finishing, and injury to the strength and other desirable properties of the wood. The ammonium phosphates in concentrations great enough to give a high degree of fire resistance, for example, add too much to the cost of wood for most uses, interfere to some extent with gluing, are somewhat corrosive to metals, and leach easily. Apparently, cheap, effective, permanent treatments that are not injurious to the wood or objectionable in use can most easily be found in combinations of chemicals. Most of our work during the past year has been in this field.

According to the paper, work done during the past year has developed a number of promising leads, but it is apparent that no practical reagent for the fire-proofing of wood has yet been developed.

In addition to this paper, another, covering an in-

vestigation conducted at the Forest Products Laboratory of Canada, by J. F. Harkom and J. I. Dore was also presented. This had to do with the fire-resisting effect of various chemicals to slow combustion such as occurs when burning cinders or embers are deposited on a wooden roof. The tests indicate that glowing or slow combustion of wood may be prevented by quite small concentrations of certain chemicals. Since many fires in wooden structures are started by burning cinders or wooden embers, in which case the wood attacked glows before flaming starts, it is possible that a large percentage of fires originating on the outside of structures may be prevented by light treatments, although the light treatments would be useless where the fire starts in inflammable material inside or adjacent to the structures.

Fire Hazard of Creosoted Wood

An answer to questions raised concerning the fire hazard imposed in structures built of creosoted wood was offered in the report of the Special Committee on the Effect of Treatment on the Inflammability of Wood, of which George E. Herrmann, manager of the Vancouver Creosoting Company, Ltd., was chairman. This report offered evidence and arguments tending to depreciate the hazard of fire in such structures, typical statements being as follows:

Wooden structures designed previous to 15 years or so ago, present a fire hazard that is not present in more recently designed facilities, although fire losses in these older structures have been low. They can be rendered still more fire-safe with the expenditure of an inconsiderable sum of money. The engineering departments of several of the largest North American ports feel that in their recently designed wooden piers, they have reached a degree of fire-safety fully commensurate with economy and providing adequate protection from loss of both life and property.

The fire marshal of a large Pacific Coast district, publicly gives it as his "considered opinion that a recently-built dock (costing over $1,000,000) is one of the best examples of fire-resistive construction for timber docks on this continent." He believes "that the engineers have demonstrated that a timber dock properly constructed and protected is as safe and will give as good service at a much lower cost as any type of dock now in use."

The chief engineer of an important American railway has said, "I believe the unquestioned economy in the use of treated timber far outweighs any question of fire hazard." Another prominent railway engineer has remarked, "We have not found the fire hazard in creosoted timber trestles to be any greater than that of untreated timber structures and our fire loss is extremely small."

The report also embodied recommendations covering practices in design, treatment, inspection, etc., designed to reduce fire hazard, which are abstracted below:

Reducing the fire hazard in creosoted structures to an acceptable minimum can best be accomplished by the co-operation of several agencies, among them being:

(a) Correct engineering design.
(b) Correct creosoting specifications.
(c) Study of the causes of fires in order intelligently to formulate fire-safety regulations.
(d) The supply and use of precautionary measures for fire prevention during storage of the material, construction, and the use of the structure.
(e) Periodic inspections to see that fire-safety regulations are observed.
(f) The application of ordinary, common horse-sense from the time the job commences at the designing stage, to the end of the useful life of the structure.

Wharves

Tightly laid treated wood floors, hard (mastic compounds or concrete) surfaced.

Longitudinal fire walls from under side of deck down to low water, of tightly laid creosoted timber.

Transverse fire walls, properly spaced, from under side of deck down to low water, of tightly laid creosoted lumber.

Fire stops at least four inches thick, tightly fitted, between stringers over caps.

Manholes at frequent spacings in the deck to permit firemen to get at under-deck blazes.

Fire wall at street end of docks.

Fill under dock at street end of pier.

Sprinkler systems under deck and in sheds, with connections for fire departments easily accessible, and properly marked.

Proper insulation of all electric wiring.

Zinc chloride-treated timber in superstructure; especially roofs and fire walls in sheds above deck.

Due consideration should be given to the desirability of zinc chloride treatment of interior flooring for wharves for the purpose of forming an effective fire break, the net retention of salts to be not less than one pound per cubic foot of wood.

Bridges

Tightly laid treated wood floors, hard surfaced.

Transverse fire walls or gravel filled panels in long trestles at requisite intervals.

Ballast deck used for railway bridges.

Fire stops at least four inches thick tightly fitted on caps between stringers.

Proper insulation of all electric wiring.

Proper bonding of rails of electric railways.

Open Timber Foundations

Similar provisions in design as for wharves and bridges.

Quantity of Preservative Injected

This should be studied from the standpoint of using the lowest possible poundage per cubic foot of wood commensurate with the longest possible useful life of the structure, in consideration of the species of timber used and its receptivity of the preservative, and whether or not, in the case of sawn lumber, incising is resorted to, also whether full-cell or empty-cell treatment is to be given.

Incising

Incising of sawn lumber provides in it a more uniform and deeper diffusion of the preservative, thus reducing the concentration of the preservative near the surfaces, accomplishing a more surface-dry result.

Empty-Cell Process

Because empty-cell creosoted timber is rendered by that process more surface-dry, it is to be preferred to the full-cell process except for use in marine-borer-infested waters.

Initial air injected during this process is recommended to be as small as commensurate with good treatment.

Final Bath

At completion of impregnation and before leaving the cylinder a proper expansion bath and final vacuum should be applied, to assist in securing a surface-dry result.

Seasoning After Treatment

When it is practicable, and if considered necessary, creosoted timber may be seasoned after treatment in order that the very light and more volatile oils carrying the lowest flash points may leave the treated timber.

In this connection, however, it is noteworthy that few fires have occurred within six months of the date of preservative treating. Where such has been the case, the causes were easily preventable.

This leads your Committee to the thought that perhaps too much stress has been laid on the necessity for after-treatment seasoning. We think it desirable, when practicable, but of insufficient importance to hinder necessary speed of construction, especially when common sense fire-safety measures are employed.

Data on insurance rates for various types of docks indicated a very favorable rating for treated timber construction.

Study Preservatives

The technical problems of wood preservatives were accorded attention in the report of the Committee on Preservatives of which W. H. Fulweiler, chemical engineer, Philadelphia Gas Works, was chairman, as well as in several monographs. The report of the committee covered a number of changes in methods of analysis

and test, as well as a comparison of the standard methods of creosote analysis of the association with the corresponding standards of the American Society for Testing Materials, and the American Railway Engineering Association. It also included a statement of the progress being made in the study of heavy or high-residue creosotes, which has consisted to date largely of determinations of loss by evaporation under accelerated artificial weathering tests or ordinary actual weathering. Progress was reported also on the committee's study of the requirements of creosote and petroleum for mixture treatments, but no statement was made as to the data gathered to date.

Toxicity of Creosote Petroleum Mixtures

Creosote-petroleum mixtures from the standpoint of their toxicity, was the subject of a paper by Henry Schmitz, chief and professor of forestry, University of Minnesota, who outlined the problem as follows:

It has been known for some time that petroleums are only slightly, if at all, toxic to wood-destroying fungi and that, used alone, they have little merit as wood preservatives. Nevertheless petroleums are extensively used as carriers or as diluents of more toxic materials, particularly coal-tar creosote and certain properties have been ascribed to such mixtures not possessed by the coal-tar creosote alone.

Coal tars in mixture with coal-tar creosote are also used extensively in the preservative treatment of wood. Coal tars, however, unlike petroleum, are not only in themselves quite toxic, but also possess to a greater or lesser degree many of the essential characteristics of an effective wood preservative.

It now seems quite clear that when coal-tar creosote is mixed with petroleum the toxicity of the resulting mixture is not in direct proportion to the degree of dilution. The toxicity of such mixtures is invariably decreased more than would be suggested by the degree of dilution.

When coal-tar creosote is dissolved in coal tar, somewhat the same relationships are undoubtedly established as in coal-tar creosote—petroleum mixtures, but to be sure in somewhat modified form. Because coal-tar creosote in itself is quite toxic, any disproportionate reduction in the toxicity which may result is somewhat masked.

Not many data are available which show the degree of reduction in toxicity of coal-tar creosote resulting from dilution with petroleum. Even fewer data are available showing the toxicity of coal tar—coal-tar creosote mixtures. It was felt, therefore, that further study of this subject might not be without some interest.

An investigation conducted by Professor Schmitz was responsible for conclusions that were in part as follows:

For the most toxic of the creosotes used in the investigation, one gallon of creosote has a toxicity equal to seven gallons of a 50-50 creosote-petroleum mixture and to 24 gal. of a 25-75 mixture, while with a less toxic creosote the corresponding equivalents were 6 gal. and 9 gal. respectively. Similarly, one gallon of the most toxic creosote was found to have a toxicity equal to three gallons of a 50-50 creosote-coal tar mixture and to seven gallons of a 25-75 mixture, while for a less toxic creosote the toxicity of the 50-50 creosote-coal tar mixture is about equal to that of the creosote, and that of the 25-75 mixture is about two-thirds that of the creosote. The report is concluded, however, with the following note of caution.

These values should, of course, not be taken literally, because they merely indicate the trends in toxicity, as shown by toxicity tests, of coal-tar creosote—petroleum and coal-tar creosote—coal tar mixtures. In the actual preservation of wood many other relationships exist which are not duplicated or taken into consideration in laboratory toxicity tests. This fact can not be too strongly emphasized, and must always be taken into consideration in a reasonable interpretation of the results of such tests.

Further Study of Toxicity Necessary

In a paper on the Significance of Toxicity Determinations from a Practical Standpoint, Dr. Hermann von Schrenk pointed to some of the difficulties encountered in evaluating the results of tests for toxicity. He stated that toxicity tests determine whether a substance is toxic. If it is, it will inhibit the development of decay producing fungi; if not, it will not act as an inhibitor when injected into the wood. These tests do not, however, give a clear idea of the behavior of substances that are found by these tests to have high toxicity, when put to practical use. In other words, the toxicity as determined in this manner is not a true measure of the degree to which they will retard or eliminate the development of decay when used as wood preservatives.

Despite this, however, he endorsed toxicity determination as one of the most important forward steps in the study of the relative value of the different types of creosote. In conclusion, he recommended that efforts be made to attain a greater uniformity in practice in the conduct of these tests. These should embrace as many creosotes as possible, include examinations of oils extracted from timbers after many years of service and, if possible, record the quantity of oil originally injected. He also urged the planning of new investigations which will make it possible to relate the original toxicity of the oil to the toxicity after various periods of service.

Other Technical Studies

Other papers dealing with the more technical problems of wood preservation included one on the Effect of Heating Wet Wood on its Subsequent Dimensions, by Arthur Koehler, United States Forest Products Laboratory, Madison, Wis., from which the following conclusions were abstracted:

Heating wet wood may set up damaging stresses within the wood, especially in pieces containing the pith, on account of the tangential expansion and radial contraction which take place, resulting in radial cracks through the center and circular cracks, or shakes, farther out. The effect increases rapidly with increase in temperature above 160 deg. F., and possibly even with temperatures above a lower limit. Heating wet hardwoods to temperatures of 274 deg. F. and probably even less, greatly increases their tendency to collapse in drying at ordinary temperatures and would be ruinous for most practical purposes.

Another paper, Experiments with the Boulton Process in the Treatment of Green Southern Pine Poles, by J. D. McLean, also of the United States Forest Products Laboratory, discussed experiments at the Forest Products Laboratory with the Boulton or boiling-under-vacuum process as a means of reducing the moisture content of green southern pine poles and conditioning them in preparation for creosote treatment, for the purpose of comparing the results obtained with those realized with the steaming and vacuum treatment. The conclusions reached were in part as follows:

When it is desired to obtain net retentions of less than 10 lb. per cubic foot the steaming and vacuum process may be more suitable than the Boulton method because the tendency to heavy net absorptions is less in steam conditioned pine poles. When absorptions of 10 lb. or more per cubic foot are specified, steaming apparently has no advantages over the Boulton method, either from the standpoint of time required for treatment or in the results obtained. On the other hand, besides being less effective as a means of removing moisture, steaming subjects the wood to higher temperatures and appears to cause more surface checking, ring shakes, and burst checks.

Of a somewhat different character was the material offered by the Committee on Plant Operation, which devoted its report this year to power equipment. This embraced descriptions and methods of operation of cranes, adzing and incising machines, dappers, etc.

Service Tests

In addition to reports of inspections of ties in test tracks on nine railways, the Committee on Tie Service

Records, of which W. R. Goodwin, engineer of wood preservation, Minneapolis, St. Paul & Sault Ste. Marie, was chairman, presented its annual report on crosstie renewals per mile of track maintained, this table being extended to include the data for 1931, and figures for the Boston & Maine, in addition to those for the 26 railways covered in previous tables. As a result, the table, which is reproduced in abstract herewith, embraces tie renewals on 200,442 miles of tracks. This

Road	Renewals per Mile of Track 1931	5 Year Aver.	Adzing and Boring Yes or No	When started	Length
A. T. & S. F.	111	150	Yes	1912	8 ft.
B. & O.	46	140	No	....	8½ "
B. & M.	157	253	...	....	.... "
C. R. R. of N. J.	81	79	Yes	1912	8½ "
C. & O.	138	194	Yes	1925	8½ "
C. B. & Q.	134	158	...	....	.... "
C. & E. I.	98	119	No	....	8 "
C. I. & L.	147	129	No	....	8 "
C. M. St. P. & P.	186	266	...	....	.... "
C. R. I. & P.	103	140	Yes	....	8 "
C. C. C. & St. L.	79	93	Yes	1925	8½ " & 8 "
D. L. & W.	70	82	Yes	1911	8½ "
Gt. Northern	168	198	Yes	1925	8½ "
I. C.	184	191	Yes	1924	8½ " & 8 "
K. C. S.	147	148	Yes	1926	8 "
L. V.	53	66	Yes	1929	8½ "
Mich. Cent.	78	108	Yes	....	8½ "
M. St. P. & S. S. M.	173	234	Yes	1925	8 "
M-K-T	94	194	Yes	1926	8 "
N. Y. C. (East)	96	130	Yes	....	8½ "
N. Y. C. (West)	57	75	Yes	1926	8½ "
N. P.	108	133	Yes	1911	8½ "
Penna.	75	139	No	....	8½ "
Reading	96	128	Yes	1912	8½ "
S. P. (Atl. Sys.)	129	191	Yes	1924	8 "
S. P. (Pac. Sys.)	138	188	...	....	.... "
U. P.	106	156	Yes	1928	8 "

table also shows the practice of 23 of these railways with respect to adzing and boring and the standard lengths of crossties.

The Committee on Marine Piling Service Records, of which M. F. Jaeger, superintendent of the Port Reading Creosoting Plant, was chairman, presented a progress report consisting of statements covering the observations made in the inspection of a number of structures that have withstood natural ravages for long periods in waters infested with marine borers. The data presented consisted, in the main, of records of pile replacements and average life realized.

A report on the International Termite Exposure Test, presented by George M. Hunt and T. E. Snyder, of the United States Forest Products Laboratory, consisted in large part of tabulations on the condition at the time of the latest inspection of specimens subjected to various types of treatment that have been exposed to termite attack in the Panama Canal Zone, Australia, Hawaii and Transvaal.

Service records were also presented by the Committee on Pole Service Records, which also offered a set of detailed suggestions for the handling, storage, distribution and installation of treated poles.

The study of service records of wooden bridges has been organized by the Committee on Bridge and Structural Timber of which G. A. Haggander, bridge engineer of the Chicago, Burlington & Quincy, is chairman, on a basis where it will soon yield a fund of service data equally as comprehensive as those now available on the life of ties. The foundation for this has been laid in the report presented at the convention, which comprised complete information on the materials and construction details of 13 pile trestles and 3 other structures on which service reports will be presented periodically. A considerable proportion of these are so new that it will be several years before failure data will be forthcoming. The service of treated wooden bridges was also covered in a paper which is reviewed elsewhere.

A report by H. R. Duncan, superintendent of wood preservation, Chicago, Burlington & Quincy, as chairman of the Committee on Car Lumber, reviewed the experience of his road in the use of treated wood flooring in the kitchens of five dining cars, zinc chloride being used as the preservative in two of the cars and creosote in the other three. In April, 1932, one of the cars in which the zinc-treated wood had been applied in 1921, was given a general overhauling, and an inspection showed that the wood had absorbed considerable moisture, but that practically no decay was evident. However, as it was necessary to replace the steel framing because of corrosion, the wood floor had to be removed which damaged it to such an extent that it could not be reused. The conclusions based on this experience are as follows:

1. The wood used in the construction of dining car floors can be successfully treated so that decay will be retarded or stopped for a period of more than eleven years.
2. On account of the fact that the life of the balance of the material which goes to make up the construction of the floor is approximately ten or eleven years and it is impossible to remove the wood used in floor construction so that it can be reused, no economy will result from treated wood floors in dining car construction.

Decay in Buildings

In a paper on decay of wood in buildings based largely on a study of failures in humid sections of the United States, C. Audry Richards, United States Forest Products Laboratory, offered specific suggestions designed to prevent a recurrence of the experiences cited. Her conclusions were in part as follows:

It is much easier to prevent decay in buildings than it is to eliminate the decay after it is once started. There is only one general rule to remember: Control the moisture content of the wood or, if the conditions of use are such that the moisture content can not be controlled, use wood treated with a suitable preservative.

In the construction of new buildings the following precautions should be taken in order that decay of the buildings might be prevented: (1) Build on a well-drained site; (2) secure well-seasoned lumber from a yard where rot in foundations and lumber piles is not tolerated, rejecting any material that is suspected to contain incipient decay; (3) do not allow the selected material to lie on the ground after it has been delivered on the job; (4) untreated lumber should not be allowed to come in contact with the soil or with foundations or walls which are liable to be damp, and should not be embedded in concrete or masonry without leaving ventilation around the ends of the timbers; (5) wood flooring should never be laid directly on the soil or on concrete unless it has been chemically preserved; (6) ample ventilation should be provided so that free circulation of air around the wood will keep the wood dry. No general rule as to size and number of ventilators desirable can be given, but they should be large enough and so placed that no dead air pockets will be formed.

Treated Wood in Bridge Work

In a paper on the service rendered by treated wood in bridges, Col. H. Austil, bridge engineer of the Mobile & Ohio, quoted from a number of previously presented papers and reports designed to show the results that had been obtained and offered the following comments:

Some time ago I had a questionnaire sent out to a large number of engineers and was deeply impressed with the number of replies in which it was stated that timber overgrade bridges were no longer used, as permanent construction had been adopted.

I was wondering what permanent construction, particularly as applied to railroads, might be and whether we were losing sight of the economics of design and construction. Granting that the material of which a structure is built is permanent, what assurance have we that the structure itself will be useful 75 or 100 years from now? Are we really justified in increasing our capital expenditures to project the life of a structure beyond the time when we can foresee its usefulness?

Frankly I think our schools in recent years have taught too little about the use of wood as a structural material. While the

merits of treated timber as compared to untreated timber are generally recognized I doubt if the merits of treated timber as compared to other materials of construction are so generally recognized.

He then reviewed the experience of the Mobile & Ohio.

In 1925 the Mobile & Ohio rebuilt a creosoted ballast deck trestle 2,798 ft. long at Wickliffe, Ky., which was then about 20 years old. Many of the piles, which were very small, had been spliced, and some damage was done to the timber in raising the deck 28 in. However, except for some of the bents having settled and the high water mark having been raised during the life of the structure, it could have been maintained for several more years at moderate expense. Much of the timber salvaged was reused and is still in service.

In 1930 two creosoted ballasted deck trestles at Henderson, Tenn., which were built in 1905 were rebuilt because the grade had to be raised and the design was too light. All of the original piling and timber were still in place and sound.

The oldest treated wood on the Mobile & Ohio is the piling in a trestle over Bayou Coden which was driven in November, 1899. There are 11 bents of 4 piles each in this trestle. The details of the treatment are unknown. These piles, being in salt water, were attacked by marine borers between mean tide level and the mud line, and in the summer of 1921 they were protected by bending pieces of sheet metal about them and filling the rings from mud line to mean tide level with concrete.

Late in 1919 we started using round creosoted piling treated with 12 lb. of creosote per cu. ft. The treatment has since been increased to 14 lb. and should, of course, be more.

We now have 123,878 lin. ft. of trestle bridges, of which 26,680 ft. is ballast decked, and the number of piles required for 1933, as revealed by inspection in the fall of 1932, is 1106, including those required for splicing. If we were still using piles with an average life of 10 years we would require approximately 6,000 per year for this amount of trestle work. For the 4 years 1930 to 1933 inclusive, the requirements would total 24,000 as against 3,238 actually used and required.

It is my contention that a timber structure need not be displeasing to the eye, that it is in general more easily reinforced and altered than a structure of other materials, and that it does have a very definite field of economic use.

Committee Approves I. C. C. Bill

WASHINGTON, D. C.

A FAVORABLE report was ordered by the House committee on interstate and foreign commerce on January 24 on the bill recommended by the Interstate Commerce Commission, H. R. 7432, to authorize the commission to delegate portions of its work to individual commissioners or boards of employees, subject to the proviso that this authority shall not extend to investigations instituted upon the commission's own motion nor, without the consent of the parties thereto, to contested proceedings involving the taking of testimony at public hearings. Such authority has been asked by the commission for several years but there had been some opposition to the plan until the proviso was inserted. Provision is also made that any action by an individual commissioner or board of employees shall be subject to rehearing or reconsideration, first by a division of the commission and finally by the commission itself.

Commissioner Joseph B. Eastman, chairman of the commission's legislative committee, presented a statement in explanation of the commission's reasons for desiring such authority at a hearing before the committee on January 18. The bill was also supported at that time by R. C. Fulbright, representing the National Industrial Traffic League, John E. Benton, representing the state commissions, and C. A. Miller, for the American Short Line Railroad Association. Mr. Eastman said that the plan of delegating duties to divisions of commissioners, adopted in 1917, had worked out very well and without it the commission could not have handled its present volume of work. "All that we are now asking is an opportunity to extend the same principle a little further," he said.

"While the members of the commission find their time very fully occupied with an abundance of hard work, they are not seeking this authority for the purpose of escaping from work, but so that they can do better work. In my judgment the members of the commission will work just as hard if and when this bill becomes law as they do now, but the work of the commission will be done more expeditiously, thoroughly, and effectively.

"Sound principles of organization demand that those at the top be able to concentrate their attention upon the larger or more important questions of policy and practice, and that their time be freed, so far as possible, from the consideration of the smaller and less important matters of detail. We do now commit a vast amount of detailed work to subordinates, but nevertheless all this work leads up to action for which members of the commission must be directly and immediately responsible and which is taken in their names. The preliminary work, for example, of hearing the evidence in a rate case and preparing a report may be and usually is done by examiners, but when that case comes on to be argued, it is members of the commission who hear the argument and it is they who must finally decide the case."

To show the extent of the work which now requires personal exercise of discretion by commissioners, Mr. Eastman said the records for the year ended October 31, 1932, show the following:

Formal rate case decisions, not including subcomplaints	1175
Petitions for rehearing or reconsideration of such cases (grouped)	509
Requests for suspension of tariff schedules (grouped)	626
Applications for approval of released rates, dependent on value	30
Application for relief under section 4 or for modification of outstanding section 4 orders	667
Orders instituting investigations on Commission's own motion	15
Tentative valuations adopted	65
Final valuations adopted	26
Tentative recapture reports approved for service	61
Final recapture reports adopted	8
Reports on bills to committees of Congress	65
Prosecutions for violations of law considered	122
Applications for medals of honor approved or rejected	3
Emergency service order	1
Orders as to regulations for transportation of explosives and other dangerous articles	5
Standard Time Zone Act orders	3
Proposals of Postmaster General under Parcel Post Act considered	1
Orders under Railway Mail Pay Act	1
Certificates of public convenience and necessity for construction, operation, acquisition, or abandonment	155
Authorizations sought for acquisition of control of one carrier by another	31
Authorizations sought to consolidate telephone properties	18
Applications for approval of issue of securities or assumption of obligations	190
Applications for approval of interlocking directorates or offices	366
Claims for reimbursement of deficits during Federal control period	5
Applications for loans under R. F. C. Act considered	121
Total	4269

In addition there were 1489 administrative and procedural matters requiring entry of minutes and the exercise of personal discretion by commissioners and he called attention to the fact that 65 reports on bills were made to committees of Congress.

Members of the commission usually are assigned to two or more divisions, Commissioner Eastman said, and the conflict in duties and engagements often makes it difficult to secure a conference of the members of a particular division without delay, a difficulty which this proposal would tend to avoid. "Because, also, of the large number of cases to be argued and the other engagements of the commissioners, it has been necessary to limit the time taken in arguments very severely, and often to the discontent of the lawyers who do the arguing. In the year for which I have given statistics, most of the commissioners devoted considerable time to the hearing of evidence in some of the larger and more important cases,

often traveling for this purpose. Such hearing of evidence and traveling by commissioners is, in my judgment, highly desirable from every point of view, and it is one of our hopes that the passage of H. R. 7432 will allow more opportunity for such work.

"A further, and to my mind serious, effect of the continual drive of this routine of work is that it is difficult for commissioners to find time to study the essential statistics of railroad operations, to grasp the trend of events, and to ponder in quiet over the really big questions of policy and principle. There is, of course, in the last analysis no more important work than this which commissioners can do."

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended January 14 amounted to 506,322 cars, an increase of 70,670 cars as compared with the week before, which included a holiday, but a reduction of 66,327 cars, or nearly 12 per cent, as compared with the corresponding week of 1932. It was also a decrease of 218,890 cars as compared with 1931. Ore loading showed an increase of 37 cars above the figure for the corresponding week of last year, and all commodity classifications showed increases as compared with the week before, but all except ore showed a lighter loading than in the corresponding week of 1932. The summary, as compiled by the Car Service Division, A. R. A., follows:

Revenue Freight Car Loading

Week Ended Saturday, January 14, 1933

Districts	1933	1932	1931
Eastern	116,984	128,945	162,820
Allegheny	93,842	113,256	146,263
Pocahontas	37,478	37,010	45,781
Southern	80,623	87,469	110,613
Northwestern	56,917	64,567	88,625
Central Western	75,420	90,569	114,423
Southwestern	45,058	50,833	56,687
Total Western Districts	177,395	205,969	259,735
Total All Roads	506,322	572,649	725,212
Commodities			
Grain and Grain Products	30,349	31,007	41,138
Live Stock	18,138	21,442	27,226
Coal	117,354	119,121	167,145
Coke	5,552	5,962	8,942
Forest Products	13,824	18,097	32,284
Ore	2,354	2,317	4,916
Mdse. L. C. L.	158,896	186,623	206,486
Miscellaneous	159,855	188,080	237,075
January 14	506,322	572,649	725,212
January 7	435,652	571,678	713,128
Cumulative totals, 2 weeks	941,974	1,144,327	1,438,340

The freight car surplus on December 31 was 646,733 cars, a decrease of 2,249 cars as compared with the number on December 14. The total included 375,783 box cars, 195,514 coal cars, 33,039 stock cars, and 14,794 refrigerator cars.

Car Loading in Canada

Car loadings in Canada for the week ending January 14 amounted to 32,626 cars, which, compared with 26,782 cars for the previous week, was an increase of 5,844 cars. This, however, was less than the usual seasonal increase and the index number dropped from 60.10 to 59.73.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
January 14, 1933	32,626	17,070
January 7, 1933	26,782	14,995
December 31, 1932	25,071	14,271
January 16, 1932	40,061	19,997
Cumulative Totals for Canada:		
January 14, 1933	59,408	32,065
January 16, 1932	79,026	39,447
January 10, 1931	80,315	46,374

Report Railroad Reorganization Bill

WASHINGTON, D. C.

A PLAN for effecting voluntary financial reorganization of railroads by substituting proceedings before the Interstate Commerce Commission, subject to final court approval, for the usual receivership proceedings, including provisions designed to curtail the power of minority security holders to obstruct such reorganization plans, is proposed in a bill reported to the House on January 23 by its judiciary committee. The bill, H.R.14359, introduced in the House on January 21 by Representative Sumners, of Texas, as chairman of the committee, represents the results of several months work of the committee, in consultation with representatives of various interests affected, and is a combination of several bills previously introduced for the same purpose. The general idea of the bill has been advocated by President Hoover, by President-elect Roosevelt, and by the Interstate Commerce Commission, which has worked with the committee on its preparation. It is in the form of an amendment to the federal bankruptcy act, from the provisions of which railroads are now specifically exempted. One section of the bill deals with individual debtors, and another with reorganizations of corporations generally, while Section 76 of the bill includes the special provisions for railroad reorganizations.

"The necessity for the enactment of this section," Chairman Sumners said in the committee report, "grows out of the present expensive, protracted, confusing, and inefficient administration of affairs of railroad companies engaged in interstate commerce in equity receiverships. The necessity for its immediate enactment results from the fact that at the present time many of the railroad organizations of the country confront the necessity of reorganization. They have reached the limit of their ability to borrow from the Reconstruction Finance Corporation. They must either reorganize under some arrangement such as is provided for by this section, or be administered in equity receiverships. The protracted period of such administration, the duplication of expense incident to ancillary receiverships, the waste, the opportunity of manipulation on the part of special groups, are too well known to require comment."

Plans have been announced for consideration of the bill in the House next week. A somewhat similar bill introduced by Senator Hastings, which did not give the Interstate Commerce Commission such an active participation in reorganization planning, has been under consideration for a long time by the Senate judiciary committee, a subcommittee of which conducted hearings on proposed revisions of the bankruptcy committee with a subcommittee of the House committee last Spring.

Under the plan of the Sumners bill a railroad would be operated by a trustee or trustees appointed by the court on the recommendation of the Interstate Commerce Commission during the pendency of the proceedings, instead of by a receiver, and the commission would have jurisdiction, supervision, and control, subject to court review, from the time of the initial notice of desire to effect a reorganization until its final approval by a court. Under existing practice the supervision of the Interstate Commerce Commission does not come into play until after a plan has been worked out in detail and approved by the court, when the matter comes before the commission for its authorization of the necessary

securities. Under the plan of the bill the commission's approval would be required for the filing of the initial petition to the court.

Railroads Favor Principle of Bill

The railroads are in favor of the principle of the proposed legislation and have been working for the enactment of some such bill. However, it is understood that they would prefer the form of the recent drafts of the Hastings bill and believe that the House bill provides for too much cumbersome machinery that would lead to long delays. Passage of separate bills in the two houses of Congress would give an opportunity for a revision in conference.

An outline of the principal provisions of the bill and its purposes is given in the committee report as follows:

The Committee's Explanation

This section provides that a railroad corporation engaged in interstate commerce may file a petition in the federal court, stating that the railroad is either insolvent or unable to meet its debts as they mature, and that it desires to effect a plan of reorganization.

There is also provision made in the event the railroad company does not file such petition for the filing of a petition by 25 per cent in amount of any class of creditors and not less than 10 per cent of all creditors of such corporation, upon procuring the approval of the Interstate Commerce Commission.

Subdivision (b) permits the filing and consideration of practically any plan of reorganization. The general plan of this section is to utilize the expert knowledge of the Interstate Commerce Commission.

Subdivision (c) provides for appointment of a temporary trustee or trustees by the judge, recommended by the Interstate Commerce Commission. Permission for creditors to be heard is also provided in this section.

If a plan for reorganization is not proposed or accepted within such reasonable time as the judge may, upon cause shown, fix, or if proposed and accepted is not approved, shall dismiss the proceeding. The court may authorize with the approval of the Interstate Commerce Commission, the trustee to sell certificates for new money which may be needed to provide reasonable compensation for specific expenses incurred.

It is provided that the President of the United States, by and with the advice and consent of the Senate, may appoint special referees to which it is contemplated matters arising under this section will be referred. This permits the building up of a group of men thoroughly informed in railroad reorganization matters.

There is a very broad provision for a hearing by any creditor or stockholder with regard to confirmation of any plan of reorganization, avoiding the necessity of the filing of a petition of intervention.

Subdivision (d) places the entire plan of reorganization under the jurisdiction, supervision and control of the Interstate Commerce Commission. The commission may consider any and all plans presented to it. The corporation may present a plan of 25 per cent in amount of any class of creditors and not less than 10 per cent in amount of all the creditors whose claims may be affected by the plan may be proposed for consideration. Hearings are then held by the Interstate Commerce Commission on the various plans before it. The commission is then required to render a report in which it shall recommend a plan of reorganization which it shall find equitable, financially advisable, and compatible with the public interest. The section specifically provides that the plan recommended by the commission may be one of several plans presented, a modification of any, or an entirely new plan of the commission. The plan is then presented to the stockholders and creditors for acceptance by them.

Subdivision (e) provides for the transmittal by the commission to the court after it has been accepted in writing by or on behalf of creditors holding two-thirds in amount of the claims of each class whose claims or interests have been allowed and would be affected by the plan. This acceptance is also required by two-thirds of the stockholders unless, of course, the corporation has been found to be insolvent. If a class of creditors or stockholders are provided for by proper protection of their interests as hereinafter discussed, such class need not accept.

Subdivision (f) provides for the final approval of the plan by the Interstate Commerce Commission and, after such approval, for the certification of the plan to the court for its approval. After the acceptance is filed with the commission the proceedings are reopened for the purpose of considering the accepted plan. The commission is required to make certain specific findings. At this stage of the proceedings the commission exercises its powers under section 20a of the interstate commerce act on the approval of issuance of securities necessary in the reorganization. This obviates the necessity of the matter coming back to the commission after final approval by the court, which is only on the record, and at the same time retains an absolute and complete control of the reorganization in the Interstate Commerce Commission of the plan recommended and approved by it.

The commission is given the power to fix maximum compensation to reorganization managers, officers, parties in interest, committees or other representatives of stockholders for services rendered and reimbursement for the actual and necessary expenses incurred in connection with the proceeding and plan.

This should definitely put a stop to the wholesale plundering by reorganization managers, both by way of fees and for commissions covering new securities.

The section provides that where two-thirds of a class of creditors accept the plan, then the plan is binding upon that particular class of creditors and the minority must accept the new securities issued under the plan of reorganization. This is fair because all the minority of a particular class should expect is that a fair and equitable plan be devised and if the plan is fair then all they are entitled to is equal participation in the new securities. The bill provides adequate machinery for the development of a fair and equitable plan.

In case the acceptance can not be secured of two-thirds of a particular class of creditors that particular class of creditors is not required to accept new securities under the plan. In such a case provision has been made for the adequate protection of their interests. The plan must provide one of three alternatives:

(1) That the sale of such property is subject to such liens. If this alternative is provided the rights of the particular class of creditors are not disturbed but the property is merely taken subject to that lien.

(2) That by the sale free of such liens at not less than a fair upset price and the transfer of such liens to the proceeds of the sale. If this alternative is exercised the particular class of creditors would be in exactly the same position had the property gone through receivership proceeding and the property sold at a fair upset price to the reorganized company with the further protection that the fair upset price is to be fixed by the commission. Under present practices the fair upset price is usually determined by the majority and approved by the court.

(3) By appraisal and payment in cash of the value either of such liens or at the objecting creditors' election of the securities allotted to such liens under the plan. If the plan provides for alternate (3), the creditors have the election of obtaining an appraisal and payment in cash of the old securities or the new securities allotted under the plan.

A similar method is provided for dealing with stockholders. In case there is no finding of insolvency the bill contemplates that the assent to the plan of two-thirds of each class of stockholders whether that class be either preferred or common stock. In case this acceptance can not be secured of a particular class, either common or preferred stockholders or both, then it is provided that their acceptance is not required if the plan makes adequate provision for their protection. Two alternatives are provided for dealing with classes of stockholders who refuse to accept, somewhat similar to that provided for creditors. Alternate (1) with reference to creditors is not applicable, of course, to stockholders, and the bill does not provide this alternate method, but alternates (2) and (3) with reference to creditors are used in dealing with classes of stockholders.

Subdivision (g) provides for the necessary court of review. The commission transmits the approved plan, its findings, and the record to the court. The court's review must be based upon the record made before the commission. This is specifically so provided to avoid new hearings or a commencement of the proceedings de novo by the court on the plan. Upon approval by the judge on the said record the plan shall be final and binding upon all parties interested and concerned. The approval of the plan by the court shall discharge the debtor from its debts except as provided in the plan. If the judge disapproves the plan he is required to file his reasons for such disapproval.

Subdivision (h) exempts new issues, transfers, or exchange of securities necessary to carry out the reorganization from the provisions of the revenue act of 1932. While the committee has no jurisdiction over revenue matters, it felt that the reorganization of the railroads was of such national necessity at this time that it could consider the suggestion of exempting such issues and transfers of stock from the stamp tax of the revenue act.

Subdivision (i) provides merely for a summary method of transfer of properties which may be affected by the plan; and subdivision (j) makes the act applicable to Federal or State receiverships now pending.

Subdivision (k) provides that pending claims may be stayed during the procedure under reorganization; subdivisions (l), (m), (n), and (o) are formal, defining terms and regulating minor questions of procedure.

Hearings on Pension Legislation

Railways cite experience with existing pension plans—Take position that such matters should be settled by agreement

WASHINGTON, D. C.

HEARINGS before a sub-committee of the Senate committee on interstate commerce on the rival bills proposed by railway labor organizations to provide for a compulsory system of pensions and retirement insurance for railway employees were begun on January 11 and concluded on January 20 after the presentation of testimony on behalf of the railways in opposition to such legislation and some rebuttal testimony on the part of the employee organizations. Representatives of the Railroad Pension Committee of the Association of Railway Executives objected both to the Wagner bill (S. 3892), sponsored by the Railway Labor Executives' Association, and to the Hatfield bill (S. 4646), sponsored by the Railroad Employees' National Pension Association, asking that the committee report them adversely, on the grounds that their provisions are beyond the power of Congress to enact and that either would place a stupendous economic burden upon the carriers and their employees. Statements in opposition to the bills were also filed by the American Short Line Railroad Association and by the National Association of Manufacturers.

A report of the early hearings on the bill was published in the *Railway Age* of January 14, page 46, and was continued in the *Railway Age* of January 21, page 80. These reports included a comparison of the two bills as well as various estimates of their cost. The later hearings, including summaries of railway experience with existing pension plans and railway objections, are reported herewith.

Existing Railway Pension Plans

At the request of the Railroad Pension Committee, Dr. Parmelee testified, the Bureau of Railway Economics has made a special study of 129 Class I roads or systems, whose employees at the time of their report aggregated a total of $1,215,897. The study showed the ages of employees to be distributed as follows:

	Number	Per cent of total
65 years and over	51,710	4.25
60 to 64 years	67,827	5.58
50 to 59 years	234,344	19.27
40 to 49 years	363,505	29.90
30 to 39 years	330,320	27.17
Under 30 years	168,191	13.83
	1,215,897	100.00

The study also showed that these employees were distributed according to years of service as follows:

	Number	Per cent of total
50 years and over	3,588	0.30
40 to 49 years	32,980	2.71
30 to 39 years	83,021	6.83
20 to 29 years	225,240	18.52
Under 20 years	871,068	71.64
	1,215,897	100.00

These figures give a general picture as to the ages of employees in railway service, and the length of that service, which are important factors in figuring the cost of any pension plan. The Bureau of Railway Economics has also made a study of railway pension plans now in effect on the railways of the United States, including the Pullman Company and the Railway Express Agency.

Formal pension plans have been set up on 51 railways or systems. The earliest of these 51 plans was inaugurated in 1884, and the latest one in 1929. Informal pension plans exist on 23 railways or systems. These range, as to year of inauguration, from 1890 for the earliest plan to 1929 for the latest plan. Indefinite plans also exist on 10 railways or systems, which grant pensions of specified amounts to employees as and when they retire from the service, each case being usually handled separately and on its merits.

"Thus a total of 84 railway companies or systems now pay pensions to their retired employees, on some more or less definite basis," Dr. Parmelee said. So far as our records show, none of the plans involve any contribution from the employee, but are all financed by the railway companies themselves. The studies relating to these companies cover a total of 207,216 miles of road, and 90.6 per cent of the total number of the employees of Class I railways, including the Pullman Company and the Railway Express Agency. With the exception of one large company, which has set up a trust fund for the purpose, two small companies that have some funds invested, and three companies which participate in the United States Steel and Carnegie Pension Fund, none of the pension liability is funded, nor are reserves set up against currently accruing liability during the working life of the employee to meet potential pensions, but current pension payments are met from current earnings.

"The provisions of these plans vary considerably. In the case of the 74 formal and informal plans, 62 provide pensions on account of age, 72 on account of disability, and 10 on account of length of service. Except in a few instances, retirement is compulsory at age 70. Years of service required before employees become eligible for pension benefits also vary. Where retirement is on account of age, the minimum length of service ranges from 10 to 35 years. Where retirement is on account of disability, the minimum length of service ranges from 10 to 30 years. The basis of the pension payment is usually the average rate of earnings of the employee during the ten years immediately preceding retirement, although there are some variations from this practice. The pension is usually calculated on the basis of one per cent for each year of service, with minimum and/or maximum limits in some cases.

"The 74 railway companies or systems with formal or informal plans reported a total number of pensioners of 30,096 at the end of 1925, and of 49,597 at the end of 1931. Thus the number on their pension rolls increased 64.8 per cent in six years. In 1925 a total of 5,278 employees were granted pensions; this number increased to 8,022 in 1931. The total number granted pensions from the inauguration of all these pension plans, down to the end of 1931, was 103,553. Total payments for pensions, from the beginning date of each plan to the end of 1931, amounted to $272,273,497. This total cannot be reduced to an annual average, because the plans became effective in different years. Total payments for pensions in 1925 amounted to $15,694,000, and

increased to $32,630,000 in 1931, an increase of 108 per cent.

"In 1931 the net income of the railways was $134,762,000. Pension payments in that year totaled $32,630,000, or 24.2 per cent as great as the net income. In other words, had these pension plans not been in effect in 1931, the net income of the railways would have been increased by nearly one-fourth. The railways in 1932, earned no net income, but operated at a net deficit. The total amount expended in pensions in 1932, therefore, represented an increase in the net deficit beyond what it would have been had the pension plans not been in effect." Dr. Parmelee said that his figures did not include the years of prior service on other roads, which would be covered by the plans of both bills, because the railways were able to report only the service shown by their own records, and that some roads in reporting had included furloughed employees while some had not.

New York Central Experience

Mr. Whiting supplemented Dr. Parmelee's testimony with a statement estimating that total disbursements for railroad pensions in 1932 exceeded $36,000,000 and will exceed $3,000,000 per month during the present year. He also explained some features involved in the actual operation of the pension plan of the New York Central Lines from 1910 to 1931, inclusive. The experience of this system exceeds in a number of particulars 10 per cent of the pension experience of the Class I steam railways, including the Pullman Company and the Railway Express Agency, Inc.

The total pensions granted in 1931 by all companies was 8,022, and the number granted by the New York Central Lines that year was 804, Mr. Whiting said. The average annual pension granted by all companies during the year 1931 was $753.26 and for the New York Central Lines was $793.68. The total number of pensions granted by all companies from the inauguration of the plans to the end of 1931 was 103,553. The New York Central Lines has granted a total of 12,007 pensions. Out of the 12,007 employees pensioned, there remained on the pension rolls at the end of 1931, 5,239, or approximately 44 per cent of the total retired.

"An interesting example of the ultimate cost of pensions is indicated by our experience in the years 1910, 1911 and 1912," he said, "during that period we paid on account of pensions granted in those years $1,041,873. From 1910 to 1931, inclusive, we paid on account of those pensions $4,143,720. We had estimated that it would require the aggregate of $4,180,356 to pay to terminations the pensions granted in the period named. The accuracy of this calculation is indicated by a comparison of these figures, which show that at the end of 1931 there is a balance of such estimate of $36,636 to apply on the payment of pensions of the 60 pensioners (retired in 1910, 1911 and 1912) who were then still on the pension rolls. Under our rules pensions are calculated at the rate of 1 per cent for each year of continuous service of the average monthly pay received for the ten years next preceding retirement.

"The average age of our pensioners at the time retired was 67.15 years. The average service of the pensioners has ranged from 34 to 36 years. The annual average amount of pensions granted in 1910 was $275 and this figure in 1931 was $793.68.

The amount expended in the first year (1910) of our plan was $289,590. Our payments rose to $3,504,000 in 1931. It will be noted that the 1931 payments were more than twelve times those of 1910. These figures emphasize the cumulative growth of pension payments. We estimated that the total cost of the pensions granted in 1910 would be $2,519,400. As indicated, the 1910 payments were $289,590 and from 1910 to 1931, inclusive, we had disbursed on the pensions granted in 1910 the gross sum of $2,500,000.

"Based on actuarial calculations, it was estimated that the total sum that would have to be disbursed eventually to the 12,007 pensioners would approximate $57,000,000. Of this sum, up to the end of 1931, we had expended $29,086,517, which indicates future payments (excluding reference to any subsequent grants) of $28,211,777."

A "Pay If You Can" Plan

William Breiby, consulting actuary, appearing for the railroad committee, after a study of both bills, said the plan proposed in the Hatfield bill is unsound not only financially but actuarily. Whereas it had been referred to as a "pay as you go" plan, he said that might be paraphrased as a "pay if you can" plan because the cost will mount year after year for many years to come. Practically all of the plans in existence, of railroads, industries, brotherhoods and trade unions, have been of the same class, he said, and actuaries have long tried to persuade employers to adopt sound plans on a reserve basis. Mr. Breiby gave the estimates shown in the accompanying table of the cost of the plan of the Hatfield bill, based on statistics for 1,215,000 employees.

Estimated Payments to Pensioners in the Years 1933 to 1952

(These exclude payments under existing pension plans)

Year		Total Payments In Year	Payments to be made by: Employees, 30%	Employer, 70%
1	1933	$193,315,000	$57,995,000	$135,320,000
2	1934	205,047,000	61,514,000	143,533,000
3	1935	220,821,000	66,246,000	154,575,000
4	1936	238,000,000	71,400,000	166,600,000
5	1937	255,304,000	76,591,000	178,713,000
	Five Years, 1933-1937	$1,112,487,000	$333,746,000	$778,741,000
6	1938	264,413,000	79,324,000	185,089,000
7	1939	278,316,000	83,495,000	194,821,000
8	1940	295,989,000	88,797,000	207,192,000
9	1941	308,956,000	92,687,000	216,269,000
10	1942	326,291,000	97,887,000	228,404,000
	Five Years, 1938-1942	$1,473,965,000	$442,190,000	$1,031,775,000
11	1943	341,851,000	102,555,000	239,296,000
12	1944	349,271,000	104,781,000	244,490,000
13	1945	358,997,000	107,699,000	251,298,000
14	1946	377,337,000	113,201,000	264,136,000
15	1947	405,506,000	121,652,000	283,854,000
	Five Years, 1943-1947	$1,832,962,000	$549,888,000	$1,283,074,000
16	1948	427,848,000	128,354,000	299,494,000
17	1949	440,592,000	132,178,000	308,414,000
18	1950	464,683,000	139,405,000	325,278,000
19	1951	466,498,000	139,949,000	326,549,000
20	1952	498,442,000	149,533,000	348,909,000
	Five Years, 1948-1952	$2,298,063,000	$689,419,000	$1,608,644,000
	Total 1933 to 1952...	$6,717,477,000	$2,015,243,000	$4,702,234,000

These projected requirements prove the weakness and fallacy of the plan, he said, although they were conservatively calculated and do not indicate the maximum possibility, because it is impossible to estimate the maximum monthly pay of the men on which payments would be based if they are allowed to retire after 30 years' service no matter how able-bodied they may be, some of them as young as 48 years. Most would take advantage of such an opportunity, he said, and seek other employment in competition with other labor, because their retirement insurance would be "so much velvet." Also many will be able to retire for disability, with a minimum of $50 a month under the bill, and still obtain other kinds of employment. A pension plan, Mr. Breiby argued, should be such as to be beneficial to both employers and employees by encouraging loyalty and continuity of service and affording an opportunity for the retirement of superannuated employees, but the Hatfield bill would have a reverse effect. It offers no inducement to

loyalty because it does not require continuous service with one road and it encourages retirement early in age. It would make it to the interest of the roads as a whole not to engage men who had had prior service.

The cost would be practically prohibitive, he said, because (1) it provides for a monthly pension of 2½ per cent for each year of service of the average monthly pay for the best 20 months, whereas most pension plans pay only 1 per cent of the average for the last 5 or 10 years; (2) it provides for compulsory retirement at 65; (3) it provides for possible retirement after 30 years' service regardless of age; (4) it provides for retirement for disability subject to most liberal interpretations.

"Employees under this plan would not make contributions to a fund; they would merely make gifts to employees who have worked many years before and hope that when they are older someone will be able to make similar payments to them," he said.

Rates In Wagner Bill Inadequate

Taking up the Wagner bill, Mr. Breiby said his calculations indicate that in the aggregate the proposed percentage rates are inadequate to meet the benefits proposed and would have to be increased by 45 per cent if the reserve fund earns 3 per cent interest, 33 per cent if it earns 3½ per cent, and 23 per cent if it should earn 4 per cent. On the basis of the average payroll for the years 1922 to 1932, or $2,755,000,000, he said, this deficiency in the rates would produce an aggregate deficit of $1,600,000,000 over the life of the last survivor of the employees in service at the start of the plan. This was based on the analysis of the ages and service periods of the 1,215,000 men shown in one of Dr. Parmelee's exhibits.

Mr. Breiby calculated that the average rate of contribution for both employers and employees under the Wagner bill would be 4.7 per cent of the payroll for each year, but because employees would be entitled to a full refund with 3 per cent interest in the event of withdrawal, disability, or death, the employers would really pay 1.4 times as much for retirement annuities as the employees. If the rates were increased 45 per cent, to establish an actual 50-50 basis would require a rate of 8.2 per cent for employees and 5.8 per cent for employers. If the rates were inadequate, he said, that fact would not necessarily develop for many years.

Analysis of Bills by Frank V. Whiting

A statement giving a general analysis of the two bills and the objections to them from the carriers' standpoint was given on January 18 by Frank V. Whiting, general claims attorney of the New York Central Lines and chairman of the Railroad Pension Committee, as follows:

The bills consolidate the carriers into one unit to be deemed the sole employer and likewise place all employees in a single employment. The grouping of carriers into a single employment situation as proposed in these bills is not only unnecessary but uneconomic. The matter of determining the principles providing for the retirement and pensioning of railroad employees should be on an individual basis as to the units or systems of carriers.

The bills provide for a federal board to administer the act. The administration of a national pension plan by such board would substantially increase costs to individual carriers. The several carriers would necessarily be required to have a multiplicity of record and account keeping and the carrying out of the provisions of the act by the carriers would result in an additional expense for administration by them. The keeping of these records and the administration by a federal board would, in fact, be a duplication of similar functions and result in a substantially increased cost.

These bills include subsidiaries and/or auxiliary services of the carriers which place them at a further disadvantage in respect to such auxiliary transportation service. They would have to provide, under these bills, pensions for motor vehicle operators and others engaged in such auxiliary service, whereas the competitors of the carriers engaged in identical service would not be covered by the act and therefore would not be subjected to the payment of pensions thereunder.

The bills provide that credit shall be given to an employee for prior service rendered on any railroad, in addition to the service rendered to the carrier in the employ of which the retirement takes place. In many instances, the employing carrier would not have available records as to such prior service, and in practical operation, it would be impossible to verify claims of employees for prior service with other carriers, especially in the earlier years. We think no credit should be given for service with other roads than that from which the employee is retired.

The bills are indefinite as to what shall be deemed "separation from service." They are also not specific as to provisions under which deductions of time out of service would be made for absences. Interpretation of related provisions would require the inclusion of gross service for any and all carriers, regardless of the length of time an employee might have been absent or even entirely out of railroad service.

The bills provide that officers and other official representatives of organizations of the employees of a carrier are to be regarded as "employees" under the bill, and the Hatfield bill includes members and employees of the proposed federal board. It should not be necessary to stress the argument that responsibility as to the retirement and pensioning of such officers and employees or any other person who is not in active service of the railroads, should in no way fall upon the carriers. The question naturally arises—who will provide the employers' contributions as to such employees? Certainly the carriers should not!

The bills provide that the contribution percentages of the carrier and employee asssessments may be altered. A reasonable deduction would be that such alterations would increase costs. This lack of stability in the initial assessment schedule in itself is a constant threat of future increase in cost to both the carriers and the employees.

The bills violate the fundamental principles of sound pension plans in that no credit or offset is given for benefits afforded by other compensatory systems, state or federal, for injuries or occupational diseases; neither is consideration given to cases involving the ability of the so-called disabled employees to earn in another occupation a substantial part or the equivalent of the sum earned at the time of the disability retirement.

Compulsory retirement at age 65 and retirement after 30 years of service without regard to age or physical condition are not only unjustifiable provisions as such but impose a burden of cost that neither the carriers nor the employees themselves could afford to carry. It is improper in a pension plan to set out generous provisions of this kind and the question naturally arises—where is it possible to find the money to meet the requirements of such over-liberality? It must be borne in mind that one can not take out of a pension fund more money than goes into it and that the cost of any unreasonable or unduly expensive provision must be borne by the employees as well as the carriers. Such provisions would deprive the carriers of the experience and skill of some of their best men and would also place in competition with other labor, men in good physical condition, some in the prime of life, and with assured incomes from pensions. It is impossible to characterize payments made under such conditions as pensions. Such payments in many instances are nothing more nor less than deferred wages or bonuses.

Arbitrary retirement of employees under a rigid age limit and with 30 years of service, regardless of age, in many instances deprives efficient employees in good health of an opportunity to continue to perform efficient and remunerative service. Under such circumstances retirement is unsound economics, in that it creates and imposes an unnecessary and costly charge upon both the employer and employee, and is a distinctive social dis-service to employer, employee and the community.

While the Hatfield bill limits disability payments to employees retired on account of disabilities incurred in service, the fact is that, even though employees may not avail themselves of the opportunity to retire under the 30-year service provision, a great many employees would take advantage of it who have become disabled from causes in no-wise connected with the service.

The outstanding feature of these bills is the cost to the carriers. Both bills are of such a character that in order to provide adequate funds to meet the stated benefits a stupendous economic burden would be placed upon the carriers and the employees. The addition of this burden to the present obligations of the carriers might well place their solvency in jeopardy. It has been stated that no contribution will be made by the government. The bills do not provide for a contribution by the government, but it is clear that, so far as the ultimate cost is concerned, the burden as a whole must be imposed on the transportation industry, regardless of whether the contributions are borne by the employee or the employer, with the inevitable result that such burden must pass to the patrons of the railroads.

I was impressed with the statement made by one of the members of the committee who asked whether in these times of poor railroad earnings, would not the result of placing the added pension burden on the railroads be to leave just that much less in the pot from which to pay wages—in other words, would it not have a tendency to decrease wages?

Dr. Parmelee testified that the present railroad pension plans are proving a very serious burden to the carriers and that the cost is rapidly increasing. We estimate that the pension disbursements for the year 1933 will exceed $3,000,000 per month—that is, be in excess of $36,000,000 for the year. Neither bill under consideration relieves the carriers from the burden of paying present pensions to termination—in other words, there is no provision to take over or assume the cost of paying these pensions to termination. It is evident that, if a pension bill is enacted by Congress, the present pension plans of the railroads as to future retirements will be discontinued. If the carriers should continue to pay the existing pensions to termination, the aggregate cost would approximate $300,000,000.

S. T. Bledsoe States Legal Objections

S. T. Bledsoe, chairman of the executive committee and general counsel of the Atchison, Topeka & Santa Fe, told the committee that the railroads believe that all matters relating to the establishment and maintenance of employee pensions should be by agreement between the roads and the employees, and that it is not within the constitutional powers of Congress to enact the provisions of either bill, particularly provisions requiring the consolidation of the income of the railroads, the express companies, and the Pullman Company as a basis for contributions. The amounts involved, as estimated by any of the three actuaries that have testified, are very large, he said, and it does not seem possible for the railroads to bear the added burden that would be imposed by either bill and continue to render adequate service. The assumption is made in the Wagner bill that it would promote safety, but he pointed out that it applies to the classes of employees not in a hazardous occupation, as well as to many whose service is all in the past, and to some who are not railway employees at all, in addition to including those not engaged in interstate commerce. This bill, he said, would have no effect in adding to either efficiency or safety, and both bills minimize either superannuation or long service. As to the Hatfield bill Mr. Bledsoe said that much of the emphasis of its advocates was on the unemployment feature, since it provides for the retirement of a large number of men the first year, but he asked that consideration of that question be not interjected into the consideration of pensions, because any increase in the cost of railroad operation would hamper the roads still more in their competition with other carriers.

At one point, after Mr. Bledsoe had said that the railroads had usually "got something worse" after attacking legislation as unconstitutional, Senator Wagner remarked that he was attacking the constitutionality of this legislation and asked if the same thing might happen. "Possibly, but it would require a great deal of ingenuity," replied Mr. Bledsoe.

Whereas existing pension systems are intended in part to encourage loyalty and continuity of service, and are "partly humanitarian and partly business," he said, either of the proposed plans would remove any such incentive to an employee to continue with one company, and the provisions violate the principle of equal contributions by making it possible for an employee to withdraw his contributions while those made by the railroads remain in the fund. Under the civil service retirement plan of the federal government, no contributions were made by the government for the first nine years, although recently it has made some to maintain the solvency of the fund.

Mr. Bledsoe also put into the record a brief summary of the estimates as to the costs under the provisions of the two bills as shown more in detail in the testimony of William Breiby, consulting actuary, as follows:

Costs to Railroads Under Wagner Bill

Contributions from carriers are based upon specified percentages of the payrolls, averaging about 4.7 per cent. On this basis the combined contributions would require $9.40 for each $100 of payroll. Based on average annual payrolls for 1922 to 1931, inclusive, ($2,755,500,000) the employers and employees each would make yearly contributions of $129,500,000. Inasmuch as there is an inadequacy in the proposed contributions, as compared with the benefits proposed, averaging about 45 per cent on the basis of present railroad employment, the yearly contributions, were the rates to be increased to an adequate basis, would be about $187,775,000 each from the carriers and the employees, on the basis of a payroll of $2,755,500,000.

These figures do not include estimates covering administration expenses. Neither do they include pension payments to employees retired under existing railroad pension plans, which in 1933 will probably exceed $36,000,000, as to which payments no provision is made in the bill.

Because of the provisions of this bill, which limits its application to employees as defined by the Railway Labor Act, the bill would exclude about 5 per cent of railroad employment, consisting of officers and subordinate officials whose retirement and pensions, if any, would necessarily have to be financed by the carriers.

Costs to Railroads Under Hatfield Bill

Mr. Breiby, consulting actuary, estimates pension payments in the first year of operation of the plan at about $193,000,000. The bill proposes contributions, from year to year, to be only sufficient to provide the annual pension payments.

As the carriers' assessments are proposed to be based on gross earnings and those of the employees are based on wages the carriers' contributions would be over twice those of the employees. On the basis that the carriers' contributions would be about ⅔ of the total, their contributions in the first year would be $128,667,000. As this bill makes no provision for the establishment or maintenance of reserves, it is evident that the payments in the first year indicate only the starting point of costs which, under such a "pay as you go" method of payment, would rapidly mount for over 30 years before the peak would be reached. For example, Mr. Breiby estimates that pension payments in the first twenty years would be as follows:

Estimate of Annual Pension Payments under the Hatfield Bill, exclusive of Payment under Present Plans

Year	
1 to 5	$1,112,000,000
6 to 10	1,474,000,000
11 to 15	1,833,000,000
16 to 20	2,298,000,000
1 to 20	$6,717,000,000

As an indication of the total ultimate cost of grants in the first year only it is estimated that such grants would require a sum in excess of $3,000,000,000.

These figures do not include estimates covering administration expenses, neither do they include pension payments to employees retired under existing railroad pension plans, which, in 1933, will probably exceed $36,000,000, which payments are not covered by the bill.

The total cost to carriers under Hatfield bill for the first year on the above basis would be:

New Pension under the Hatfield Bill	$128,667,000
Payments under Present Pension Plan	36,000,000
	$164,667,000

Motor Transport Section

How T. & N. O. Provides Store-Door Service to Shippers

Southern Pacific Transport Company, a subsidiary, effects co-ordination of rail and highway facilities—Results are favorable

By H. M. Lull

Executive Vice-President, Texas & New Orleans

IN ORDER to provide the shippers and receivers of l. c. l. freight along its lines with store-door pick-up and delivery service, and in order thus to meet the competition of motor trucks operated for hire on the public highways in the territory served by the Texas Lines of the Texas & New Orleans, the Southern Pacific Transport Company, a wholly-owned subsidiary of the Southern Pacific, was organized under a Texas charter, with headquarters at Houston, Tex. This new company commenced operations on August 1, 1930, offering shippers through transportation service from store-door to store-door. Its transportation service between stations is provided exclusively by rail under a contract with the railway, motor trucks being used only to pick up and deliver shipments at the various stations served. As a result of this arrangement, efficient and dependable co-ordinated rail—motor truck pick-up and delivery service is made available to shippers, at rates the same, with a few isolated exceptions, as those applicable to freight moving via the rail lines under ordinary railway tariffs. Furthermore, this service is rendered without any burden on the highways except in those cities and towns where goods are received and delivered.

At the beginning of operations, the co-ordinated service, which is restricted to intrastate traffic, embraced only a limited territory in Texas over which the Texas & New Orleans operates; but gradual expansion has taken place, so that today the Southern Pacific Transport Company is rendering pick-up and delivery service, through contracts with local draymen, at all stations on the rails of the Texas Lines of the Texas & New Orleans where the volume of traffic is sufficient to make it possible to secure contracts with local draymen. In addition, through joint tariffs, the service is extended from patrons of the transport company to almost every town of importance in Texas.

The Southern Pacific Transport Company does not own any trucks, its station service, as indicated, being performed at the various stations entirely by local draymen, who are paid fixed rates per hundred-weight for the freight handled. These rates average approximately 7.75 cents. The plan has proven economical and highly desirable from a traffic standpoint, as it has created an incentive for local contractors, who usually have considerable influence in their communities, to solicit business energetically and effectively.

Under the contract between the Southern Pacific Transport Company and the Texas & New Orleans, employees of the railroad company may be designated also as joint employees of the transport company, as conditions warrant. In consequence, the only forces wholly employed by the transport company at the present time are the vice-president and general manager, two service supervisors and a limited office force. These forces devote their entire time to supervising the affairs of the transport company and soliciting traffic. Agents of the railroad company at all stations where pick-up and delivery service is performed are joint employees of the railway and the transport company. The agents work closely with the drayage contractors, an economical and efficient arrangement affording a direct contact with patrons of the company as well as providing for supervision of essential details of the operation.

In perfecting and carrying out the plan of co-ordinated operation, no additional train service has been required, though the arrangement has made necessary the

Two More "Transport" Companies

The Southern Pacific System, one of the pioneers in the provision of store-door pick-up and delivery service for railroad l.c.l. freight, has not one but three subsidiary companies by means of which this complete service is offered to shippers. On its Pacific Lines, there is the Pacific Motor Transport Company, the operations and unusually favorable progress of which have been described in earlier issues. The other subsidiaries of this kind are the Southern Pacific Transport Company and the Southern Pacific Transport Company of Louisiana, Inc., which operate in the territory of the Southern Pacific Lines in Texas and Louisiana. The services and operating methods of these two companies are described in this article by Mr. Lull.

adjustment of certain train and package car schedules in order to meet the service offered by motor carrier competitors. The plan of operation seems well adapted to conditions in this locality. It is increasing in popularity, and the outlook for continued success in recapturing l. c. l. freight from highway motor carriers is encouraging.

Separate Company in Louisiana

On account of laws and local conditions in Louisiana, a separate transport organization has been created in that state.

This company is designated as the Southern Pacific Transport Company of Louisiana, Inc. Organized under the laws of the state of Louisiana on March 29, 1932, with headquarters at New Orleans, La., it is, like the Southern Pacific Transport Company, a wholly-owned subsidiary of the Southern Pacific. There are points of difference, however, in the nature of the services provided by the two transport companies. The creation of the Louisiana organization was prompted by a desire to

(a) Recapture a substantial part of the large volume of l.c.l. freight formerly handled by rail and lost to motor trucks and boats, and

(b) Reduce the cost of branch line train operations by substituting a modified train service, supplemented by motor trucks operated upon adjacent highways.

Following the inauguration of the transport service on April 16, 1932, applications were filed with the Louisiana Public Service Commission for authority to operate motor trucks upon all important and improved state highways traversing the territory served by the Texas & New Orleans within the state of Louisiana. All such applications were promptly granted, and the transport company now holds operating permits upon 1,836 miles of highways.

These operating permits, with a few exceptions, require that freight transported by the transport company must receive a rail haul. The exceptions apply only between points on branch lines where scheduled train service is no longer provided.

No Charge for Store-Door Service

As is the case in Texas, no trucks are owned by the transport company, all trucks operated being provided by draymen under contracts at rates per hundred-weight consistent with the distances traversed. The arrangement is considered economical as well as desirable from a traffic standpoint, because it has the effect of making all contractors active traffic solicitors. The rates charged by the transport company are the same, with few exceptions, as rail rates, with no extra charge for pick-up and delivery.

The contract between the Texas & New Orleans and the Louisiana transport company, with respect to rail service, joint employees, etc., conforms with the contract between the railroad and the Southern Pacific Transport Company in Texas, as herein described. However, all officers and employees of the Louisiana organization are joint officers and employees of the railroad also, except one service supervisor, whose duties are wholly confined to transport activities.

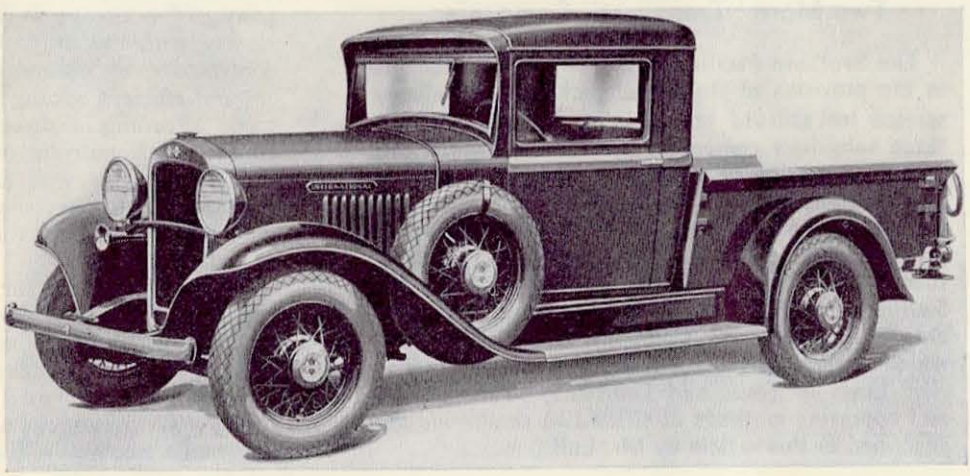
The new service, combining as it does the advantages of quick delivery afforded by motor trucks with the responsibility and dependability inherent in rail service, makes a strong appeal to the shipping public, and the plan of operation so far has fully met our expectations with respect to recovering for the railway traffic lately transported on highway and by water. It has also been the means of effecting a substantial saving in train service on branch lines.

International Offers One-Half Ton Motor Truck

A NEW motor truck of ½-ton capacity has been placed on the market by the International Harvester Company, Chicago, this being the truck of lightest capacity ever produced by the company. The ½-ton truck, which is designated as Model D-1 has a wheelbase of 113 in. and is powered by a six-cylinder engine of high-compression design, which develops 70 brake hp. at 3400 r.p.m. Downdraft carburetion and full-pressure lubrication to main, connecting-rod and camshaft bearings are two of the engine features. The 9-in. clutch is of the single-plate type with a built-in vibration damper. The transmission has three speeds forward and one in reverse, while the final drive is of the spiral-bevel-gear type, with semi-floating axle shafts.

The semi-elliptic front and rear springs are made of chrome-vanadium steel and equipped with self-adjusting shackles.

One of the body types offered, which is considered especially suitable for railroad purposes, is an all-steel pick-up body with a coupe-type cab. This body has a loading space 66 in. long and 46¾ in. wide. The side panels are 11 in. high, with 6-in. flare boards. The accompanying illustration shows the new Model D-1 chassis equipped with the pick-up type body.



The New International ½-Ton Motor Truck with Pick-Up Type Body

State Motor Vehicle Legislation

A. R. A. committee issues up-to-date compilation of state laws governing highway carriers

Part I

THE Committee on Relations of Railway Operation to Legislation of the American Railway Association has recently issued a compilation of present state laws governing the operation and taxation of highway motor carriers of passengers and freight. The compilation, which includes the provisions of laws enacted in 1932, will be published in this and subsequent issues of the *Railway Age*. The first installment follows:

Alabama

State Agency Exercising Control: Public Service Commission fixes rates, of common carriers—passenger or freight; unlawful for contract carriers to give any undue or unreasonable preference, to subject anyone to any undue or unreasonable disadvantage or to use any unfair method of competition.

Prerequisites of Operation: Certificate of public convenience and necessity for common carriers, passenger or freight; permit for contract carriers, passenger or freight; bond in amount of $5,000 for the death of or injury to any one person, and $10,000 for the damages caused by any one accident or occurrence, also bond in amount of $500 conditioned that the applicant shall pay any and all fees, taxes or penalties which may be due under the provisions of the law.

Dimensions: Length, single unit, 30 ft.; combination, 40 ft.; width, 8 ft.; height, 12 ft.; weight, motor truck or semi-trailer truck, gross, 20,000 lb.

Taxes: Common Carriers—regular routes—Application Fees, Per Vehicle, $50, buses and trucks; if capacity exceeds 12 persons 50 cents additional per passenger; if rated capacity exceeds 3 tons $1 for each additional ton. Not over regular routes—Application fee $10, contract and common carriers.

Passenger Vehicle Registration Fees. 5 passengers or less, $37.50, 6 to 10 passengers, $50, 11 to 15 passengers, $75, 16 to 20 passengers, $100, 21 to 40 passengers, $150.

Additional Taxes For Common and Contract Carriers. 16 Passengers or less, ¼ cent per mile, 17 to 20 passengers, ½ cent per mile, 21 to 25 passengers, ¾ cent per mile, 26 or more passengers, 1 cent per mile.

Freight Vehicle Registration Fees—Trucks. Less than 1 ton capacity, $15, 1 ton less than 2 ton capacity, $22.50, 2 ton less than 3 ton capacity, $50, 3 ton less than 4 ton capacity, $100, 4 ton less than 5 ton capacity, $200, 5 ton less than 6 ton capacity, $400, 6 ton less than 7 ton capacity, $750, 7 tons or over, $1000.

Additional Taxes For Common and Contract Carriers. Less than 2 tons capacity, ½ cent per mile, 2 tons less than 3 tons capacity, ¾ cent per mile, 3 tons less than 4 tons capacity, 1 cent per mile, 4 tons less than 5 tons capacity, 1½ cents per mile, 5 tons or more, 2 cents per mile.

Exemptions: Any motor vehicle designated primarily for transportation of property and operated by a contract carrier, and which when unloaded weighs 4,500 pounds or less, shall be exempt from the provisions of this act requiring the collection of mileage tax and from the provision requiring the carrier to execute a bond in the penal sum of $500 payable to the state of Alabama before obtaining a permit for its operation; if said vehicle while operated by such carrier is continuously equipped with pneumatic tires and is not loaded in excess of 4,500 pounds over its weight when unloaded, it shall not be subject to any regulation as to rates to be charged for transportation of property for hire.

Arizona

State Agency Exercising Control: Corporation Commission fixes rates, fares, etc., of common carriers—passenger or freight.

Prerequisites of Operation: Certificate of public convenience and necessity, passenger and freight; public liability insurance on passenger vehicles only of $1,000 per passenger seat plus $4,000 on any one accident (by order of commission).

Dimensions: Length, single unit, 33 ft.; combination, 85 ft.; width, 8 ft.; height, 14 ft. 6 in. May not have more than one semi-trailer and one trailer. Weight (gross), 4 wheels 22,000 lb., 4 cushion wheel 23,000 lb., 6 wheels 34,000 lb., axle 18,000 lb., wheel 9,000 lb. When equipped with other than metal tires weight 700 lbs. per inch base width. With metal tires, rollers or wheels, not to exceed 500 lbs. per inch base width.

Taxes: In addition to flat fee of $3.50 per vehicle, motor fuel and personal property taxes:

Common Carriers—Passenger: 2 per cent gross receipts, plus following license fees: Gas propelled (pneumatic tires)—Less than 1,600 lbs. unladen weight, $5; 1,600 to 3,000 lbs., $10; 3,000 to 6,000 lbs., $20; 6,000 to 10,000 lbs., $30; over 10,000 lbs., $40.

Equipped with two or more solid tires, twice the above amounts.

Electric propelled—Less than 6,000 lbs. unladen weight, $60; 6,000 lbs. to 10,000 lbs., $90; over 10,000 lbs., $120.

Common Carriers—Property: 2½ per cent of gross receipts plus same license fees charged commercial vehicles privately owned and operated.

Note: In addition to the registration fee and gross receipts tax mentioned above, the following fees must be paid annually—

(1) Each motor vehicle other than electric motor vehicles, trailers or semi-trailers, equipped with pneumatic tires and weighing unladen less than 2,600 lbs., $2.00.

(2) For each motor vehicle other than electric, but including trailers and semi-trailers, when equipped with pneumatic tires and weighing unladen more than 2,600 lbs., fees based on the following schedules—

Vehicles with two axles, or semi-trailer with one axle. 2,600 to 4,000 lbs., 35 cents per 100 lbs.; 4,000 to 6,000 lbs., 50 cents per 100 lbs.; 6,000 to 8,000 lbs., 65 cents per 100 lbs.; 8,000 to 10,000 lbs., 75 cents per 100 lbs.; 10,000 lbs. and over $1.00 per 100 lbs. but not to exceed $120.00 for any one vehicle.

Vehicles with three or more axles, weighing unladen—2,600 to 4,000 lbs., additional fee of 50 cents per 100 lbs.; 4,000 to 6,000 lbs., additional fee of 65 cents per 100 lbs.; 6,000 to 8,000 lbs., additional fee of 80 cents per 100 lbs.; 8,000 to 10,000 lbs., additional fee of $1.00 per 100 lbs.; 10,000 to 12,000 lbs., additional fee of $1.35 per 100 lbs.; 12,000 lbs. and over $1.65 per 100 lbs. but not to exceed $185.00 for any one vehicle.

(3) Vehicles equipped with two or more solid tires, the additional fee shall be twice the amounts above specified.

(4) On trailer or semi-trailers, weighing unladen 1,000 lbs. or more but less than 2,600 lbs., an additional $5 is to be paid.

(5) On electric vehicles an additional fee of $20 is to be paid and if maintained for transportation of passengers for hire, or for transportation of property for hire or not, and equipped with pneumatic tires and weighing more than 2,600 lbs., an additional fee shall be paid at the rate of $1.50 for each 100 lbs. of unladen weight, but not to exceed $180.00.

Arkansas

State Agency Exercising Control: State Highway Commission and Railroad Commission fix rates, fares, etc., for common carriers.

Prerequisites of Operation: Certificate of public convenience and necessity for common carriers—passenger or freight; bond policy for passenger and freight in amounts to be fixed by the commission.

Dimensions: Length, single unit, 33 ft.; combination, 85 ft.; semi-trailer, 65 ft.; width, 8 ft.; height, 14 ft. 6 in.; weight, axle load, 16,000 lb.; 22,000 lb. when equipped with two axles; 30,000 lb. when equipped with six wheels and three axles and when front and rear axles are not less than 96 inches apart or with eight wheels and four axles when second and third axles are not less than 96 inches apart. Limit six tons carrying capacity; 30,000 lb. any combination.

Taxes: Buses—Pneumatic Tires: Per horse power, 12½ cents. Per 100 lb. gross weight including load: Up to 3,500 lb., 55 cents; 3,501 to 4,500 lb., 60 cents; over 4,500 lb., 65 cents; plus $2.50 for each passenger capacity and 4 per cent of gross receipts.

Trucks—Pneumatic Tires: 1 ton or less capacity, $25; 1½ tons capacity, $35; 1¾ tons capacity, $45; 2 tons capacity, $60; 2½ tons capacity, $90; 3 tons capacity, $125; 3½ tons capacity, $150; 4 tons capacity, $175; 4½ tons capacity, $225; 5 tons capacity, $300; 6 tons capacity, $400.

Trailers and Semi-Trailers: 2 tons or less capacity, $15; 3 tons capacity, $25; 4 tons capacity, $45; 5 tons capacity, $50; plus trucks for hire charges rate of one and one-half regular fee and 4 per cent of gross receipts.

California

State Agency Exercising Control: Railroad Commission; regulation as to service, rates, schedules, tariffs, etc.; no regulation of private or contract carrier.

Prerequisites of Operation: Certificate of public convenience and necessity for operation as common carrier; no prerequisite to operation by private or contract carrier; bond or insurance policy to be furnished in amount of $5,000 for injury or death of one person and $10,000 for injury or death for two or more persons; $1,000.00 for damage to property.

Dimensions: Length, single unit, 33 ft.; combination, 60 ft.; width, 8 ft.; height, 13 ft. 6 in.; weight, Trucks and Trailers, 4 or more wheels—2 axles, 22,000 lb.; 6 or more wheels—3 or more axles, 34,000 lb.; Semi-Trailer, 2 or more rear axles, 26,000 lb.; Passenger, 2 axles—6 wheels, 28,333 lb. Solid tires 600 lb. per inch width of tire.

Taxes: Fee of $3.00 for every motor vehicle, trailer or semi-trailer.

Additional Fees: Electric—passenger or freight, less than 6,000 lb. unladen, $50; 6,000 less than 10,000 lb. unladen, $70; 10,000 lb or more, $90.

Gasoline—passenger or freight—includes trailers and semi-trailers.

Pneumatic Tires—3,000 lb. less than 6,000 lb. unladen, $8; 6,000 lb. less than 10,000 lb. unladen, $40; 10,000 or more unladen but not to exceed 22,000 lb. (vehicle and load), $50; 6,000 lb. or more unladen in excess of 22,000 lb. (vehicle and load), $70.

If equipped with solid tires—twice the fees in foregoing table. Certificated common carriers, whether incorporated or not, pay gross receipts tax (buses 4¼ per cent—trucks 5 per cent). Private and contract carriers, if incorporated, pay corporate franchise tax based on net income.

Colorado

State Agency Exercising Control: Public Utilities Commission fixes rates, fares, etc., of common carriers of passengers or freight.

Prerequisites of Operation: Common Carriers must secure certificate of public convenience and necessity, and file Public Liability and Property Damage Insurance Policy in amounts fixed by Commission. Private Carriers must secure Permit from Public Utilities Commission.

Dimensions: Length, single unit, 33 ft.; combination, on mountain roads, 60 ft.; on other roads, 85 ft.; width, 8 ft.; height, 12½ ft.; weight, 4 wheels, 30,000 lbs.; 6 wheels, 40,000 lbs.

Taxes: In addition to registration fees: Common carriers must pay 1 mill per passenger mile; 5 mills per ton on freight or express; private carriers holding "A" permit (operating between fixed termini) must pay 5 mills per ton mile, 1 mill per passenger mile; private carriers holding "B" permit (not operating over established routes) must pay annual permit fee of $50 for first ton capacity and $25 for each ½ ton over.

Connecticut

State Agency Exercising Control: Public Utilities Commission fixes routes, rates, fares, speed, schedules, continuity of service and safety of passenger and public carriers.

Prerequisites of Operation: Certificate of public convenience and necessity for jitneys. Bond or Insurance Policy (or, in case of jitney operated under certificate of convenience or necessity, a certificate of P. U. C. of financial responsibility) for personal injury, death or property damage. Amounts per vehicle: Capacity 16 passenger or less, $10,000; over 16 passenger, $750 per passenger, not to exceed $20,000; for all vehicles $1,000 property damage.

There is no regulation in this State covering the transportation of freight.

Dimensions: Length, single unit or combination, 40 ft.; width, 8 ft.; weight, gross, 26,000 lb., solid tires; 32,000 lb., pneumatic tires.

Taxes: In addition to registration and license fees—(1) Companies operating solely in Connecticut 3 per cent of gross receipts; (2) Companies operating partly within Connecticut 3 per cent of such gross receipts as bear a ratio to total gross receipts equal to the ratio between the mileage of routes within Connecticut and the mileage of all routes operated. If property owned by company is taxed by political subdivisions of Connecticut an equitable portion of amount of such taxes shall be deducted from this excise as determined by tax commissioner. This refers to carriers of passengers only. On interstate buses the state assesses a tax of 1 cent per coach mile. No provisions applicable to trucks.

Delaware

State Agency Exercising Control: No commission and no regulatory law; City of Wilmington may designate streets used by buses and limit number of licenses for city operation only.

Dimensions: Length, single unit, 33 ft.; combination, 60 ft.; width, 8 ft.; height, 12 ft. 2 in. Weight: 4 wheels, 22,000 lb. gross on solid tires; 26,000 lb. gross on pneumatic tires. Semi-trailer combinations, 40,000 lb. gross; trailers limited to 10,000 lb. capacity. On one axle, 16,000 lb. solid tires; 18,000 lb., pneumatic. Wheel weight 700 lb. per inch width of tire. Trailers equipped with metal tires, gross weight limit, 6,000 lb.; vehicles with 3 axles, rear axles equipped with two hubs, with power brake in rear hubs, 38,000 lb. gross.

Taxes: Buses, $2 per every 500 lb. measured by sum of weight of vehicle plus seating capacity times 125 lb.; Trucks, $2 per 500 lb. measured by maximum load capacity plus weight of vehicle. Gas tax 3 cents per gallon.

Florida

State Agency Exercising Control: Railroad Commission fixes rates, fares, etc., of common carriers of persons or property.

Prerequisites of Operation: Certificate of public convenience and necessity for common and contract carriers; permit for "for hire" motor vehicles engaged in the transportation of persons or property for compensation. Bond for liability and property damage as prescribed by the Railroad Commission.

Dimensions: Length, single unit, 35 ft.; combination, 45 ft.; width, 8 ft.; height, 12 ft. (Vehicles in service prior to Jan. 1, 1931, length (Comb.), 55 ft.) Weight: Passenger buses, vehicle weight 18,000 lb. plus 10 per cent if meets with requirements as to road surface contact; load weight, 12,000 lb.; truck or trailer, vehicle weight, 12,000 lb., load weight, 12,000 lb.

Taxes: Buses, registration fees, less than 7 passengers, $1 per cwt., $7.50 per pass.; 7 to 16 passengers $2 per cwt, $15 per pass.; 16 passengers and over, $2 per cwt., $20 per pass. In addition: 10 passengers or less, ½ cent per mile; 11 to 20 passengers, ¾ cent per mile; 21 and over, 1 cent per mile. Trucks: registration fees, up to 4000 lb., $1 per cwt.; over 4000 lb., $2 per cwt. In Addition (Trucks and Trailers): Up to 5500 lb., 1 cent per mile; over 5500 lb., 2 cents per mile.

Georgia

State Agency Exercising Control: Public Service Commission, regulates fares, service, etc., of common carriers, passenger or freight.

Prerequisites of Operation: Certificate of public convenience and necessity; bond with adequate security for both passenger and freight carriers.

Dimensions: Length, single unit, 35 ft.; combination, 45 ft.; width, 8 ft.; height, 12½ ft.; weight, 1 axle, 6,350 lb.; 2 or more, 12,500 lb. (load).

Taxes—(Housebill 14.)

Intra-State Commerce—Passenger

Weight (Pounds)	Number Passengers	Route Miles	Taxes
Under 5,000	7	50 one way	$25 per year
Under 5,000	7	51 to 100	50 per year
Under 5,000	7	150 (or over)	100 per year
Over 5,000	7		10 per cent each additional 1,000 lb.
Over 5,000	Over 7		5 per cent each additional passenger
5,000 Under 12,000	8 to 10	50 miles	$60 per year
5,000 Under 12,000	8 to 10	51 to 100	120 per year
5,000 Under 12,000	8 to 10	100 (or over)	480 per year
Over 12,000	Up to 10		10 per cent each additional 1,000 lb.
Over 12,000	Over 10	50 miles	$100 per year
Over 12,000	Over 10	51 to 100	200 per year
Over 12,000	Over 10	100 (or over)	800 per year
Over 12,000	Over 10		2½ per cent each additional passenger
12,000 or less	Over 10		22½ per cent each additional passenger

Interstate Commerce—Passenger

Under 5,000	7	½ cent per mile
5,000 to 12,000	10	1 cent per mile
Over 12,000	Over 10	1½ cent per mile

Intra-State Commerce—Freight

Weight (Pounds)	Route (Miles)	Taxes
Under 7,500	50 miles	$25 per year
Under 7,500	51 to 100	75 per year
Under 7,500	Over 100	225 per year
Over 7,500—Not over 12,000	50 miles	75 per year
Over 7,500—Not over 12,000	51 to 100	150 per year
Over 7,500—Not over 12,000	Over 100	300 per year
Over 12,000	50 miles	100 per year
Over 12,000	51 to 100	200 per year
Over 12,000	Over 100	800 per year
Each additional 1,000 in excess of 12,000		10 per cent increase

Interstate Commerce—Freight

Weight (Pounds)	Taxes
Not Over 7,500	½ cent per mile
Over 7,500—Not over 12,000	1 cent per mile
Over 12,000	2 cents per mile for first 12,000 lb. and 10 per cent each additional 1,000 lb.

Notes: Intra-state carriers have option of paying on mileage basis.

The above mentioned rates of taxes shall apply only to motor vehicles having pneumatic tires; and where such motor vehicles have solid tires the tax shall be double the amount stated. A trailer shall be considered as a separate vehicle, and the tax shall be applicable to it, as well as to other motor-vehicles.

Idaho

State Agency Exercising Control: Public Utilities Commission fixes rates, and prescribes rules and regulations for Auto Transportation Companies (common carriers, passengers or freight).

Prerequisites of Operation: Permit for auto transportation companies passenger or freight; liability and property damage insurance or surety bond not less than $5,000 for any personal injury suffered by one person, also not less than $1,000 for damage to property of any person other than insured; for motor vehicles transporting property only,—lightweight vehicles, $1,000; mediumweight vehicles, $2,000; heavyweight vehicles (all over 3½ tons rated capacity), $3,000.

Dimensions: Length, single unit, 33 ft.; combination, 85 ft.; width, 8 ft.; height, 14½ ft.; weight, 1 axle, 16,000 lb., 2 axles, 24,000 lb., 3 axles, 40,000 lb., gross (single or combination of vehicles), 40,000 lb.; 800 lb. per in. width of tires over 5 in.; 600 lb. per in. width of tires less than 5 in. and more than 3 in.; 400 lb. per in. width of tires 3 in. or less. Commissioner of Public Works may grant permits for heavier or wider loads than permitted by law.

Taxes: Auto transportation companies must pay to the Department of Law Enforcement one per cent of their gross operating revenue. Registration fees: All passenger vehicles weighing 2,000 lb. or less—two yr. old or less, $12, three yr. old or less, $11, four yr. old and over, $10; all passenger vehicles weighing 2,000 to 5,000 lb.—two yr. old or less, $12 plus $1 for each 100 lb. over 2,000, three yr. old or less, $11 plus 90 cents for each 100 lb. over 2,000, four yr. old and over, $10 plus 80 cents for each 100 lb. over 2,000; all passenger vehicles weighing 5,000 lb. or more, $42 plus $2 for each 100 lb. over 5,000. Motor vehicles carrying passengers for hire pay, in addition to the above, $5 per passenger seat. Freight carriers: Motor trucks equipped with pneumatic tires pay 40 cents for each 100 lb. of weight of the chassis, plus 80 cents for each 100 lb. of manufacturer's rated capacity; 50 per cent additional if equipped with two or more solid tires; commercial trucks pay 50 per cent additional; auto stages (common carriers) same as above plus $30 per ton of rated carrying capacity. Trailers and semi-trailers with pneumatic tires, up to 1,500 lb. $1, exceeding 1,500 lb. $1 plus $1 for each 100 lb. over 1,500; if equipped with solid tires 50 per cent additional; if used in connection with auto stages (common carriers), $15 per ton carrying capacity in addition; if used in connection with commercial trucks 50 per cent is added to above fees.

Illinois

State Agency Exercising Control: Commerce Commission. No established rates.

Prerequisites of Operation: Certificate of Public Convenience and Necessity—for common carriers of passengers or freight; motor vehicles "for hire" must file bond of $2,500 or insurance policy of $2,500 in towns of 100,000 or more population, for each vehicle (after January 1, 1932, applies all cities, towns or villages having a population of 5,000 or more).

Dimensions: Length, single unit, 35 ft.; combination, 65 ft.; width, 8 ft. Except loose hay, straw, corn fodder or similar farm products, agricultural implements and threshing machines; after January 1, 1933, overall length of combination of vehicles 40 feet. Length limits not applicable to poles, piling, beams or similar units. Weight (gross), 4 wheels, one axle, 16,000 lb., vehicle load, 24,000 lb.; 6 wheel or more, including semi-trailer units, vehicle and load, 40,000 lb.

Taxes: In addition to registration fee passenger carriers pay a license fee of $1 per 100 lb. gross weight when operating "for hire" over fixed or regular routes. Property carriers, vehicle and load (or tractor and semi-trailer). 3,000 lb. and less, $10; 3,001 to 8,000 lb., $12; 8,001 to 12,000 lb., $35; 12,001 to 16,000 lb., $75; 16,001 to 20,000 lb., $110; 20,001 to 24,000 lb., $150; over 24,001 lb., $250; each additional semi-trailer, $10; trailers, 2,000 lb. and less, $6; 2,001 to 10,000 lb., $25; 10,001 to 15,000 lb., $60; 15,001 to 20,000 lb., $90; 20,001 to 32,000 lb., $175; all vehicles, trailers and semi-trailers carrying property "for hire" must pay an additional license fee of $1.50 per 100 lb. gross weight if operated over regular routes.

Indiana

State Agency Exercising Control: Public Service Commission fixes rates of common carriers of passengers or freight.

Prerequisites of Operation: Certificate of public convenience and necessity for common carriers of passengers or freight; bond-indemnity, undertaking or insurance in amounts fixed by commission for passenger and freight common carriers.

Dimensions: Length, single unit, 33 ft.; combination, 40 ft.; width, 8 ft.; height, 12 ft.; weight, 16,000 lb. pneumatic tires, axle weight 8,000 lb. per wheel; 12,800 lb. solid tires; 24,000 commercial vehicle or 2 consecutive axles; 600 lb. per lineal ft. between front and rear axles of group.

Taxes (In addition to general property taxes): Registration fees—passenger, $6 per seat per annum; trucks (all classes pay same) ½ ton or less, $6; over ½ ton to 1 ton inc., $10; over 1 ton to 2 ton, $20; 2 ton to 3½ ton, $35; 3½ ton to 5 ton, $60; 5 ton to 7½ ton, $100; 7½ or more tons, $200; trailers, ½ ton or less, $3; over ½ ton to 1 ton inc., $8; over 1 ton to 2 ton, $10; 2 ton to 3½ ton, $20; 3½ ton to 5 ton, $40; 5 tons or more, $50; semi-trailers, 1 ton or less, $10; over 1 ton to 2 ton, $20; 2 ton to 3½ ton, $25; 3½ ton to 5 ton, $40; 5 ton to 7½ ton, $60; 7½ ton and up, $125.

Iowa

State Agency Exercising Control: Board of Railroad Commissioners fixes rules, rates, etc. Any vehicle or combination of vehicles, passenger and freight licensed up to Feb. 16, 1931, may continue to operate until Dec. 31, 1934.

Prerequisites of Operation: Certificate of public convenience and necessity—for common carriers of passengers or freight; liability insurance bond in form and amount to be fixed by Board; also bond to insure payment of fees, taxes, etc.; permit for property carrier operating over irregular routes.

Dimensions: Length, single unit, 30 ft.; combination, 45 ft.; width, 8 ft.; height, 12 ft.; buses, length, 33 ft.; weight, 1 or more vehicles 24,000 lb. plus 450 lb. for each ft. between front and rear axles—8,000 lb. per wheel.

Taxes: Common carriers, pneumatic tires, ¼ cent per ton mile; solid tires, ½ cent per ton mile; registration fees—buses—1 per cent of value plus 40 cents per 100 lb. net weight; trucks (pneumatic tires), 1 ton or less capacity, $15; 1½ ton capacity, $25; 2 ton capacity, $40; 2½ ton capacity, $65; 3 ton capacity, $100; 3½ ton capacity, $130; 4 ton capacity, $160; 4½ ton capacity, $200; 5 ton capacity, $250; 6 ton capacity, $300; plus $50 each ton above 6; tractors with semi-trailers, 3 tons or less capacity, $75; 4 tons capacity, $120; 5 tons capacity, $200; 6 tons capacity, $240; plus $50 each ton above 6; trailers—pneumatic tires—½ ton less than 1 ton, $10; 1 ton less than 2 ton, $15; 2 ton less than 3 ton, $20; 3 ton less than 4 ton, $25; 4 ton less than 5 ton, $40; 5 ton less than 6 ton, $50; 6 ton less than 7 ton, $60.

Kansas

State Agency Exercising Control: Public Service Commission fixes rates of common carriers, passengers or freight; supervises and regulate contract carriers of passenger or freight, also private carriers of freight.

Prerequisites of Operation: Certificate of public convenience and necessity for common carriers of passengers or freight—license for contract carriers of passengers or freight and for private carriers of freight; liability insurance policy in such reasonable sum as commission may deem necessary to adequately protect the interest of the public for injuries to persons, and loss or damage to property resulting from negligent operation.

Dimensions: Length, single unit, 35 ft., combination, 50 ft., limit, 2 units; width, 8 ft.; height, 13 ft. Weight, 4 wheels, 24,000 lb., dual tires, 28,000 lb., 6 wheels, 34,000 lb.; axle load, single axle, 16,000 lb., dual tires, 18,500 lb.; after July 1, 1931, all automobile trucks, trailers and semi-trailers must be equipped with pneumatic tires.

Taxes: In addition to registration and license fees, 5/10 mills per gross ton mile, passenger or freight; Registration Fees—passenger cars—flat rate, $8, over 2,000 lb. per each 100 lb., 50 cents, electrically propelled, flat rate, $10. Registration fees—trucks—½ ton or less, $8; over ½ to 1½ tons, $15; over 1½ to 2 tons, $30; over 2 to 2½ tons, $37.50; over 2½ to 3 tons, $45; over 3 to 4 tons, $70; over 4 to 5 tons, $100; plus $40.00 per ton or fraction over 5 tons; trailers, 1½ ton or less, $5, plus $5 per ton over 1½ ton.

Kentucky

State Agency Exercising Control: State Tax Commission prescribes rules and regulations, fixes rates, fares, classifications, etc., for common and contract carriers, passenger and freight; State Highway Commission enforces "Motor Truck Act" which covers weight, dimensions and other physical requirements.

Prerequisites of Operation: Certificate of public convenience and necessity for common carriers of passengers or freight; permit for contract carriers, passenger and freight; bond or insurance policy to be furnished for passenger and freight common and contract carriers, in amounts as may be deemed necessary by the commission; bond of $1,000. to $5,000. to be filed with the commission at time certificate or permit is issued, as surety for payment of all fees, taxes and penalties which may be due under provisions of the Act, and for the faithful compliance with all lawful regulations and requirements of the commission.

Dimensions: Length (including load), single unit, 26½ ft.; semi-trailer truck, 30 ft.; height, vehicle and load, 11½ ft.; width, vehicle and load, 8 ft. Weight, vehicle and load, 18,000 lb. (effective Jan. 1, 1933); buses, per axle, 18,000 lb.; gross, 28,000 lb.

Taxes: Buses (certificate or permit fees)—7 passengers or less, $10; all other applications for certificates, $25; all other applications for permits, $20, also, 7 passengers or less, per passenger seat, $3; bus tags, $10; over 7, less than 17, per passenger seat, $7.50, bus tags, $10; 17 and less than 26, per passenger seat, $10, bus tags, $25; 26 and less than 30, per passenger seat, $12.50, bus tags, $50; 30 or more, per passenger seat, $15, bus tags, $50. Also, 50 cents for each 100 lb. gross weight of each motor vehicle. Buses, excise taxes, 7 passengers or less ¼ cent per mile; 8 to 16 passengers, ½ cent per mile; 17 to 25 passengers, ¾ cent per mile; 26 to 29 passengers, 1 cent per mile; 30 or more passengers, 3 cents per mile; not equipped with pneumatic tires, 50 per cent additional, also 1 per cent additional per month for each month payment of tax is in default. The above rates to be increased 100 per cent, if the annual registration fee prescribed by the law of the state on like motor vehicles, is not paid because such motor vehicle is engaged in interstate commerce. Each chauffeur, or driver, must, at all times, while on duty, have in his possession, a statement of his fitness, to be issued by the commission, fee, $2 for original issue, and a like amount for each annual renewal thereof.

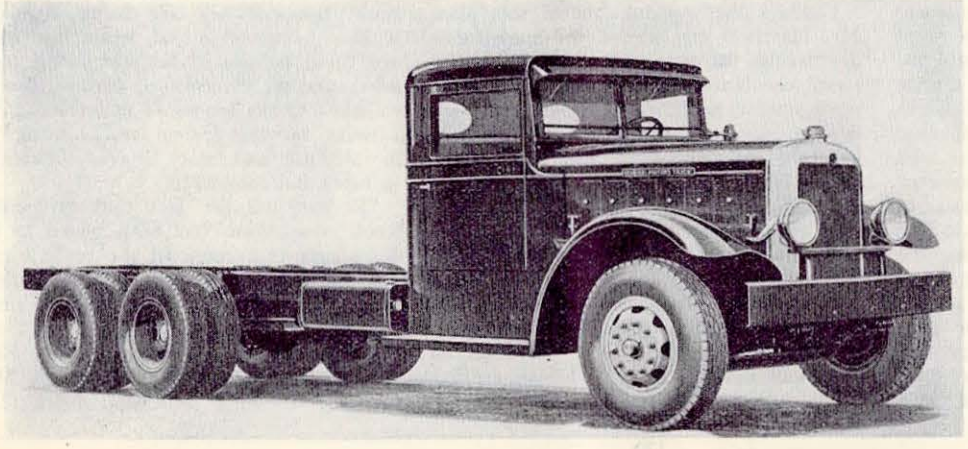
Trucks (certificate or permit fees)—All applications for certificates, $25. All applications for permits, $20. Also, 1000 lb. or less capacity, $20; over 1000 lb. to 2000 lb. capacity, $30; over 2000 lb. to 3000 lb. capacity, $55; over 3000 lb. to 4000 lb. capacity, $70; over 4000 lb. to 5000 lb. capacity, $85; over 5000 lb. to 6000 lb. capacity, $95; over 6000 lb. to 7000 lb. capacity, $125; over 7000 lb. to 8000 lb. capacity, $150; over 8000 lb. to 9000 lb. capacity, $185; over 9000 lb. to 10,000 lb. capacity, $250; over 10,000 lb. capacity, $300; also, $30 for each ton or fraction thereof in excess of 10,000 pounds capacity. Trucks, Common and Contract Carrier excise taxes, 5,500 lb. to 3 tons, included, unloaded, ½ cent per mile; over 3 tons unloaded, ½ cent per mile additional for each ton, or fraction thereof, in excess of 3 tons; not equipped with pneumatic tires, 50 per cent additional; also, an additional 1 per cent per month for each month payment of tax is in default. The above rates to be increased 30 per cent if the annual registration fee prescribed by the law of the state on like motor vehicles, is not paid because such motor vehicle is engaged in interstate commerce. In addition, each chauffeur, or driver, must, at all times, while on duty, have in his possession, a statement of his fitness, to be issued by the commission, fee, $2 for original issue, and a like amount for each annual renewal thereof.

New Heavy-Duty General Motors Trucks

EXTENSION of its line into the super-heavy duty field has been announced by the General Motors Truck Company, Pontiac, Mich., in introducing two new models, the T-110 and the T-130, with gross weight ratings of 40,000 and 50,000 lb., respectively. The gross weight ratings provide a capacity range of from 8 to 12 tons of payload on Model T-110, and from 12 to 15 tons of payload on Model T-130, depending upon the body weight and the tire capacity.

Model T-110 is a four-wheel unit equipped with a full-floating, double-reduction type rear axle, while Model T-130 is a six wheel unit having dual rear axles of the heavy-duty worm-drive, full-floating tandem type, with inter-axle differential. Equal division of the load between the four sets of driving wheels is provided for by equalizing beams and the balanced spring suspension. Both of the models are powered with the 616 cu. in., six-cylinder General Motors Truck engine, which has an S.A.E. horsepower rating of 57.04. Features of this engine are the automatic valve-adjusting mechanism, replaceable hardened semi-steel sleeves in each cylinder bore, a counterweighted seven-bearing crankshaft with harmonic balancer, stellite-faced exhaust valve seats and full-pressure lubrication.

Features of the new truck models are a large capacity radiator of flat tube construction, the entire assembly being mounted on a spring leaf to afford protection from shock; a heavy-duty double-disc clutch of multiple-spring design; a four-speed, heavy-duty truck-type main transmission; an auxiliary transmission which, in combination with the main transmission, provides 12 speeds forward and 3 in reverse; straight channel-type frames of large section, reinforced with stress absorbers which distribute over a greater area the frame stress at the back of the cab; and a front axle of the wide-tread type. Both models are equipped with independent service and hand brakes employing cast nickel iron drums. The service brakes are the Bendix-Westinghouse air-operated, two-shoe design, acting on all four wheels.



This Model T-130 General Motors Truck Has a Pay-Load Capacity of 12 to 15 Tons

NEWS

Perishable Shippers Favor Motor Carrier Regulation

Three organizations join in urging revision of transport laws to effect fair competition

A revision of transportation legislation that will make it possible for the railways to compete with users of the highways was approved by the American Fruit and Vegetable Shippers Association, the National League of Commission Merchants and the Western Fruit Jobbers Association at a joint meeting in Chicago on January 16-20. A report on transportation, prepared by a joint transportation committee and approved by the three associations, called for federal regulation of motor transport, relief from the Fourth Section of the Interstate Commerce Act, repeal of the recapture and valuation provisions and other changes to remove the legislative handicap under which the railroads operate.

Throughout the meeting, the feeling prevailed that efficient railroad operation and adequate rail service require more freedom, that adequate railroad service is essential to the welfare of the industry, and that transportation costs must be reduced so that freight charges on fresh fruits and vegetables can be lowered. The report of the joint transportation committee calls for the drafting of a petition to the presidents of all Class I railroads asking for immediate reduction of rates on fruits and vegetables to a level obtaining between 1910 and 1914. A report of the Traffic committee of the Shippers Association proposed a reduction of the rates to the basis in effect prior to the first general increase on June 25, 1918.

Among the things that the associations contended would contribute to efficient railroad operation were the consolidation of the railroads into a limited number of systems, the pooling of freight equipment, particularly refrigerator equipment owned by subsidiary companies, the joint use of passenger and freight terminals, the elimination of duplicate passenger service over paralleling lines, and railroad operation of freight-forwarding companies. Legislative changes proposed were the modification of the Interstate Commerce Act to make it legal for the railroads to reduce rates to meet competition on one day's notice and provisions prohibiting the use of such competitive rates as a measure of reasonable maximum rates. A recommendation was also made that the railroads use equipment of the Railway Express Agency in providing store-door pick-up and delivery service and that pick-up and delivery services be excluded from the jurisdiction of the commission.

A report presented by the Legislative committee and approved by the association provided that in addition to the establishment of federal regulation of motor trucks, state regulatory laws embodying the following features, should be adopted:

1. To establish a system of payment for the use of highways, producing adequate charges which should be apportioned in accordance with the actual use of the highways made by vehicles of varying sizes, weights and kinds. In addition to paying adequately for highway use, they should contribute in taxes to the general expense of government as the railroads are required to do.

2. The placing of reasonable limits on the width, height, length and weight of trucks.

3. The barring of freight "trains" from our highways, including the excessive use of unwieldy trailers.

4. Limitation of the reciprocity now allowed to trucks in many states. Trucks operated for profit should pay every state in which they run for the privilege of using its highways to carry on private business.

Regulation of Waterways Urged by M. W. Harrison

President of Security Owners Association speaks before New York Railroad Club

The development by Congress of a policy of sound national transportation enabling the railroads to compete equitably with the waterways and, eventually, to handle waterborne traffic was urged as a major step towards solving the country's traffic problem by Milton W. Harrison, president of the Security Owners Association, in an address on January 20, before the New York Railroad Club.

Pending the working out of this plan, Mr. Harrison emphasized the importance of placing the waterways system under strict regulation by the Federal government similar to the control now exercised by the Interstate Commerce Commission over the rail carriers. This he said was the second step necessary to remove discrimination caused by such unfair practices among water carriers as rebating and rate cutting, evils responsible nearly fifty years ago for the wave of protest which brought about drastic railroad regulation.

The new transportation policy urged by the speaker included: (1) Cessation of waterway development; (2) inauguration

(*Continued on page 124*)

Half Billion in Revenue Lost to Trucks in 1932

Amount is approximately equal to annual interest on railway funded indebtedness

In 1932, the subsidized and unregulated competition of trucks operating upon the highways deprived the railways of the United States of more than $500,000,000 of freight revenues, an amount approximately equal to the annual interest upon the entire funded indebtedness of the railways, according to Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Company, and editor of the *Railway Age*, in an address before the annual convention of the Southwestern Lumbermen's Association at Kansas City, Mo., on January 25.

"Detailed information furnished by the agents at all railway stations in the 17 states in the Mississippi valley," Mr. Dunn said, "shows that the freight handled by the trucks in these states, would have yielded the railways, if it had been handled by rail, more than $180,000,000 in earnings. As about one-third of the freight traffic of the country is handled in the Mississippi valley states and as truck competition is about equally prevalent throughout the country, it is a reasonable conclusion that the earnings lost by the railways due to truck competition were three times as great in the entire country as in the Mississippi valley states. All previous estimates of the proportion of total freight being handled by truck have been too small. The freight revenues lost by the railways last year due to truck competition were 20 to 25 per cent of the total freight earnings made by them.

If competition were fair, the railways would have no right to complain of truck competition, and it would do no harm to producers, shippers and the public. But truck competition is entirely unfair, because the railways are being regulated without being subsidized, while the trucks are being subsidized without being regulated; and the diversion of traffic from the railways to the trucks is undermining the nation's railway system and causing demoralization and losses in every branch of industry and commerce.

"Recognizing the fact that this unfair truck competition has been added to the depression as a cause of the present railway situation, let us see what has happened since 1929 because of the railway situation in the 17 Mississippi valley states—Arkansas, Colorado, Illinois, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, North Da-

kota, Oklahoma, South Dakota, Tennessee, Texas and Wisconsin. Between 1929 and 1932 the number of persons employed by the railways in these states declined 254,000 and the amount paid them annually in wages declined about $515,400,000. The purchases of equipment, materials and fuel made by the railways from industries in these states declined about $330,000,000. Therefore, the railway payroll and railway purchases from industries in these states were about $846,000,000 less in 1932 than in 1929.

"In 1931, the railways paid $111,420,000 in taxes in these 17 states, of which $41,000,000 were used for the support of state and local governments, $49,000,000 for the support of schools and $17,000,000 for roads and bridges. The ability of the railways to pay taxes necessarily declines as their earnings decline. From what source will the local governments and schools in these states derive the taxes now paid by the railways for their support if railway earnings continue to be reduced by unfair competition? Not from buses and trucks, if the propagandists for them are successful, because they contend that all motor vehicle license fees and gasoline taxes should be spent upon the highways.

"There is agitation for large expenditures for the elimination of grade crossings of railways with highways because of the accidents that occur at them. Statistics compiled from newspaper clippings show that in the 17 Mississippi valley states in the six months ending with November, 1932, 146 persons were killed and 980 injured in accidents involving buses and trucks, exclusive of this occurring at railway grade crossings. These figures indicate that in the country as a whole almost four times as many people are being killed and ten times as many injured in accidents involving buses and trucks as are being killed and injured at railway grade crossings. Obviously, there is much greater need, in the interest of public safety, for regulating the weights, brakes, speed and other features of the equipment and operation of buses and trucks than for eliminating railway grade crossings.

"And at whose cost is bus and truck transportation being rendered? Largely at the expense of taxpayers in general. Including proper charges for interest upon investment, depreciation and maintenance, the highways of the 17 Mississippi valley states in 1930 cost the people of these states over $740,000,000. The amount of revenues received from motor vehicle license fees, gasoline taxes, etc., in that year was about $302,000,000, or only about 41 per cent of the total highway cost. This left about $438,500,000, or almost 60 per cent of highway costs to be paid from general property taxes and other sources. Now, what the owner of an automobile or light truck should pay for using the highway is one question. His use of it is an ordinary public use. What the operators of buses and trucks should pay is an entirely different question. They use the highways for commercial transportation for their own private profit in direct competition with the railways. Clearly, therefore, they should be required to pay rentals for such use sufficient fully to reimburse the public for all costs incurred by it in providing and maintaining highways for their use, and thereby largely reduce the taxes paid by the general public for highway purposes.

Club Meeting

The Indianapolis (Ind.) Car Inspection Association will hold its next meeting on Monday evening, February 6, at the Severin Hotel, Indianapolis. There will be a discussion of the A. R. A. Interchange Rules.

Petition To Dismiss Grain Case Denied by I.C.C.

The Interstate Commerce Commission has denied the petition filed by the Chicago Board of Trade and other grain exchanges for a discontinuance of the western grain rate investigation, on which a rehearing is now in progress.

Annual Meeting of Freight Claim Division

The forty-second annual session of the Freight Claim division of the American Railway Association will convene at the Brown Hotel, Louisville, Ky., on June 6. It is contemplated that three days will be required to dispose of the matters to be considered.

Joint Rail-Highway Report to Be Issued January 30

The report of the Joint Railway-Highway Users' Committee, of which W. W. Atterbury, president of the Pennsylvania, is chairman of the railway members and Alfred H. Swayne, vice-president of the General Motors Corporation, is chairman of the group representing highway users, will be made public on January 30.

No Exhibits at Chicago Meeting

The National Railway Appliances Association has decided not to hold its annual exhibit at the Coliseum, Chicago, during the convention of the American Railway Engineering Association in March because the convention has been curtailed to two days, affording no time for the inspection of the exhibits. Arrangements are being made to maintain a skeleton organization of the Appliances association looking to an exhibit in 1934.

Reduced Citrus Fruit Rates Suspended

The Interstate Commerce Commission has suspended until August 22 the operation of tariff schedules proposing to establish proportional rates on citrus fruits and pineapples from Pensacola, Fla. (shipside), on traffic originating in Florida and moving by truck into Tampa and thence via water into Pensacola, for certain destinations in Alabama, Arkansas, Illinois, Kansas, Mississippi, Missouri, Oklahoma and Tennessee via the St. Louis-San Francisco, which would result in substantial reductions under the existing all-rail rates.

Federal Reorganization Plan Shelved

President Hoover's plan for reorganizing federal offices was disapproved by a vote of 203 to 176 by the House of Representatives on January 19, with the expectation that this would pave the way for the consideration of a somewhat similar plan in the next administration. The bill under which the President's plan was prepared provided that it should become effective if not disapproved by either house of Congress within 60 days. It proposed to transfer the Inland Waterways Corporation and the Merchant Fleet Corporation to a division of the Department of Commerce, and the rivers and harbors work and the Bureau of Public Roads to a new Division of Public Works.

A. S. C. E. Holds Eightieth Annual Meeting

The eightieth annual meeting of the American Society of Civil Engineers, including a program of business sessions, educational trips and entertainment, was held at New York, January 18 to 21. Among the features of the meeting, those of special interest to railroad men included an address by R. E. Dougherty, vice-president, New York Central, on "Some of the Problems of the Railroads"; a paper on "Construction of Railroad Grade Separation," by G. H. Wilsey, Foley Brothers, Inc., New York; and a paper by J. L. Vogel, bridge engineer, D. L. & W., entitled, "Structural Design for Railroad Grade Separations."

Honorary membership was conferred upon Lincoln Bush, past president of the society, and for some years chief engineer of the Delaware, Lackawanna & Western.

Few Cars and Locomotives Installed in 1932

Class I railroads installed fewer freight cars in service in 1932 than in any year since 1923, the first for which records were kept, according to reports filed with the Car Service Division of the American Railway Association. New freight cars totaled 2,968. In 1923, the number totaled 196,336 cars. Those put in use in 1932 include: Box cars, 1,092; coal cars, 661; refrigerator, 660; flat, 110; stock, 425, and miscellaneous cars, 20. The railroads in 1932 also installed 37 new locomotives compared with 124 in 1931 and 782 in 1930.

New freight cars on order on January 1, 1933, totaled 2,431 compared with 4,042 on January 1, 1932, and 9,821 on January 1, 1931. New locomotives on order on January 1, 1933, totaled three compared with 39 on January 1, 1932, and 120 on January 1, 1931.

New Committee Chairmen for A.R.E.A.

Changes among the chairmen of its standing committees, involving the appointment of six new committee chairmen, have been announced by the American Railway Engineering Association. The committees involved, together with the new and retiring chairmen are as follows: Roadway, G. S. Fanning, chief engineer, Erie, Cleveland, Ohio, who succeeds C. W. Baldridge, assistant engineer, A. T. & S. F., Chicago; Track, C. J. Geyer, assistant to vice-president, C. & O., Richmond, Va., who succeeds C. R. Harding, assistant to president, S. P., San Francisco, Cal.; Buildings, G. A. Rodman, general supervisor bridges and buildings, N. Y., N. H. & H., New Haven, Conn., who succeeds A. L. Sparks, architect, M-K-T, St. Louis, Mo.; Yards and Terminals,

M. J. J. Harrison, general scale inspector, Penna., Chicago, who succeeds H. L. Ripley, construction engineer, N. Y., N. H. & H., New Haven; Shops and Locomotive Terminals, J. M. Metcalf, assistant chief engineer, M-K-T, St. Louis, who succeeds L. P. Kimball, engineer of buildings, B. & O., Baltimore, Md.; Rivers and Harbors, W. C. Swartout, assistant engineer, M. P., St. Louis, Mo., who succeeds the late E. A. Hadley, chief engineer, M. P., St. Louis.

I. C. C. Allows Hearing on Barge-Rail Rates

The Interstate Commerce Commission has ordered a summary hearing on the application of the American Barge Line Company for the establishment of joint rail and barge rates on cotton from Arkansas points and Memphis, Tenn., to points in the East and New England and has postponed until February 21 the effective date of its order requiring the establishment of such rates which it had issued without a hearing. The railroads had objected to the issuance of the order without a hearing and had asked a cancellation, taking the position that lower rates should not be made by differentials under rates which they had already reduced to meet truck-barge competition.

Inter-Line Rates on North Shore Electric

The Chicago, North Shore & Milwaukee will put into effect a low round-trip passenger ticket and an interchangeable scrip book. The former will be good between any stations on the North Shore Line and also will be available for passengers going to any point in Western Passenger Association or Southwestern Passenger Association territory. Rates will be on the basis of one and two-thirds of the one-way fare for the round trip with a return limit of 10 days from the date of sale. This ticket, which represents a reduction of 17 per cent, will be on sale daily at all stations on the road. Interchangeable scrip books will be good between all stations on the North Shore and also on inter-line travel on all roads west of Chicago, St. Louis, and the Mississippi river. The face value of the books will be $72 and $108, while the selling price will be $54 and $81, respectively.

Brotherhood Representatives Urge Short Work Week

Legislation to provide for a six-hour day and a five-day week was advocated by Arthur Lovell, national legislative representative of the Brotherhood of Locomotive Firemen and Enginemen, and J. A. Farquharson, national legislative representative of the Brotherhood of Railroad Trainmen, at a hearing on January 23 before the House labor committee on the bill introduced by Representative Connery. Both urged that the shorter work day be made effective without reduction in daily wages. C. A. Miller, representing the American Short Line Railroad Association, told the committee that if Congress desires to legislate on hours of labor it should first set in motion steps to obtain a constitutional amendment.

Mr. Farquharson also appeared before a subcommittee of the Senate judiciary committee on the following day and presented a resolution adopted by the railroad labor executives approving the Black bill provided it does not presuppose any reduction in wages. Senator Norris said he could see many difficulties in the way of placing a wage provision in the bill.

Liberal Leader Defends C.N.R.

"In the last two years there has been a definite propaganda against the Canadian National and against public ownership," declared Hon. W. D. Euler, who was Canada's Minister of National Revenue in the preceding government, at a recent political meeting in Ottawa. "There is a definite movement in support of amalgamation of the two railway systems of the country under private ownership," he added.

Admitting that the C.N.R. was now losing money at the rate of $50,000,000 annually, Mr. Euler said that was not because of the fact it was publicly owned or had been mismanaged but because of depressed world conditions.

"If we are going to have a monopoly of railway transportation services, let it be one owned by the people of Canada," said Mr. Euler. He referred to the attacks against the "publicly-owned system by the government" and the "charges that had been made against its servants." He characterized the treatment accorded Sir Henry Thornton, former president of the C.N.R., as "the rawest deal a man ever got from a government in Canada."

$337,435,093 Of Loans To Railroads Authorized by R. F. C.

In the year ended December 31, the Reconstruction Finance Corporation authorized 104 loans to 62 railroads aggregating $337,435,093, according to its monthly report. Of this amount $264,740 had been cancelled or withdrawn, $52,859,081 remained at the disposal of borrowers, and $284,311,271 had been disbursed to them; and $11,839,562 had been repaid. In the same period the Interstate Commerce Commission had approved loans amounting to $359,394,439, on applications aggregating $475,109,649.

The proceeds of loans authorized to railroads were to be used for the following purposes:

For completion of new construction	$47,945,483
For construction and repair of equipment and Dotsero Cutoff by Denver & Rio Grande Western	13,550,000
To pay interest on funded debt	73,960,423
To pay taxes	19,624,815
To pay past due vouchers for wages, materials, etc	20,188,009
To pay principal of maturing equipment trust notes	21,114,713
To retire maturing bonds and other funded obligations	81,609,618
To pay loans from banks (20 railroads)	37,793,900
To pay other loans	16,162,665
Miscellaneous	5,485,467

Too Late!

The time to prevent an accident is before it occurs, and anything done afterwards is too late—merely an apology for a duty not done. When this principle is acknowledged, safety supervision will not be subordinated to expediency; workers will observe safety rules and safety principles because they value the privilege of doing so, and the value of accident prevention work in dollars and cents will be so apparent to both employer and employee that no other course will be tolerated.

This is the gist of the circular entitled as above, which has been issued by the Safety Section, A. R. A., for the guidance of safety committees in the month of February. The exhortation is explained by four engravings, picturing certain elements of real life not often illustrated: (1) "Too Late for the Boss." An accident report is handed in to the superintendent; but what can he do after the damage is done? (2) "Too Late for the Employee." The crippled railroad employee asks for a job but is told that only able bodied men can be engaged. (3) "Too Late for the Family." The wife and children of the injured railroader are notified of the distressful occurrence but can do nothing but wring their hands in horror. (4) "Too Late for the Pocketbook." The employee who is injured and has lost his earning power must sacrifice his home to pay hospital and doctors' bills.

Shippers Seek Allowance for Cartage

A hearing on an application filed with the Kansas Public Service Commission to require railroads to allow shippers five cents per 100 lb. on freight delivered by them to railroad stations was held at Topeka, Kan., on January 19. In the petition the shippers contend that since the railroads, in their pick up and delivery service for less than carload shipments of freight, have to pay a contract truck carrier for this hauling service, a shipper doing his own delivering should have the allowance deducted from the freight charges. Among those seeking the allowance are the Wichita Warehouse & Transfermen's Association, the Topeka Chamber of Commerce, and the Kansas City Chamber of Commerce. The respondents named are the Arkansas Valley Interurban, the Atchison, Topeka & Santa Fe, the Chicago, Rock Island & Pacific, the Missouri Pacific, the Union Pacific, the Missouri-Kansas-Texas and the St. Louis-San Francisco.

Under a recent order of the commission railroads are prohibited from making such allowances to shippers, although they can hire transfer companies to make the deliveries at the rate of five cents a hundred pounds. At the time the order was made, the railroads were willing to make the allowance to shippers and at the hearing it developed that if the application of the shippers were granted the railroads would be willing to have the order applied to all points in the state and not merely to Wichita, Topeka and Kansas City.

Rivers and Harbors Congress To Advocate Particular Projects

The policy of the National Rivers and Harbors Congress was radically changed at its annual convention in Washington on January 18, and complete control of the organization was assumed by Louisiana interests. Whereas heretofore the organization's slogan has been "a policy, not a project," the constitution was amended to eliminate this provision and to enable it

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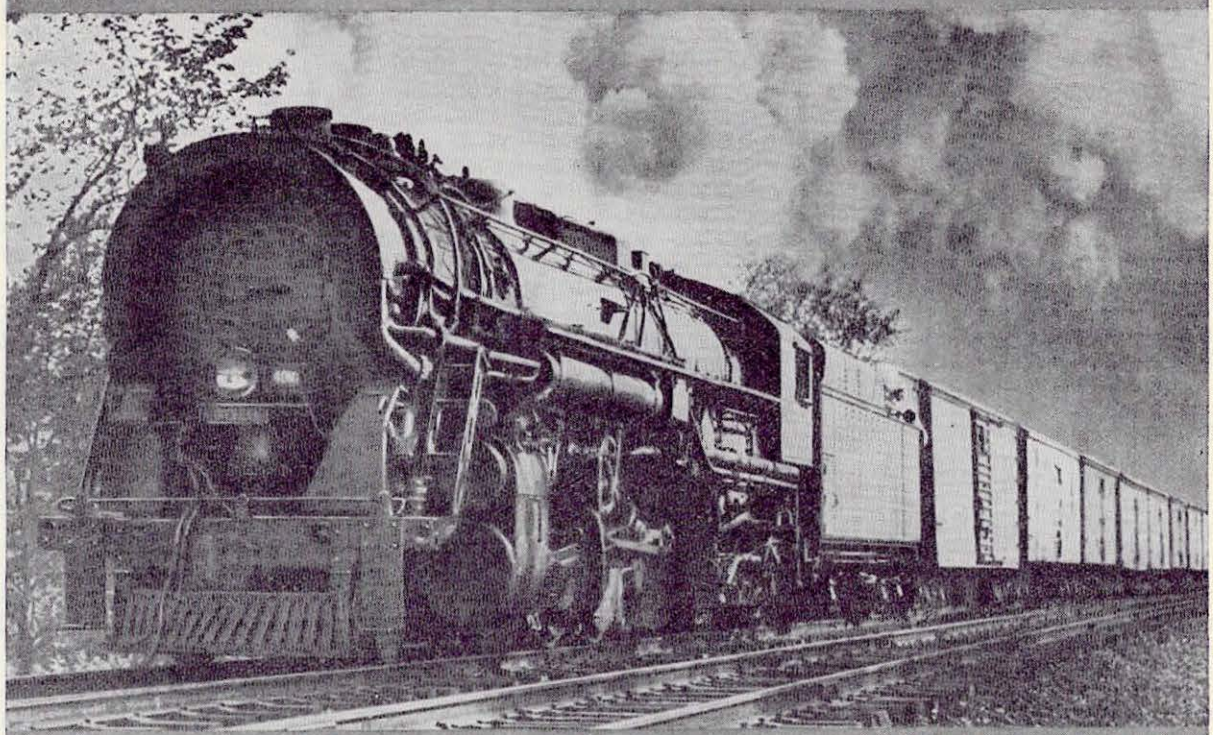
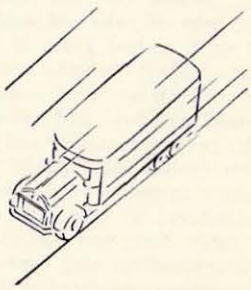
LIMA LOCOMOTIVES



PROVIDE THE POWER

that hauls freights on passenger schedule

Progressive railroads are merchandisers of transportation service. They give the shipper what he wants. In line with this policy the Boston and Maine, in co-operation with the New Haven, operates a fast freight service between Portland, Me., and New York City. « Co-ordinated highway truck service to and from concentration points picks up freight in the afternoon, delivers it to the cities where "The Bullet" stops, and the next morning it is in the railroad yards in New York. The train provides over-night service to and from New York from practically all New England points. « Careful co-ordination and planning are an essential in such service, but equally important is adequate motive power. Old locomotives lack the sustained power output for such work. « Lima-built 2-8-4 type locomotives enable the Boston and Maine to maintain passenger speeds on this newest freight run—and do it day after day with dependability and economy. « More of these improvements in service are needed if the railroads are to defeat competition. This in turn requires modern Super-Power.



LIMA LOCOMOTIVE WORKS • Incorporated • LIMA • OHIO

to exert its efforts for or against particular projects for river and harbor improvement. This action was taken by the votes of Louisiana delegates, who, under a rule according voting power to organizations in proportion to their contribution of dues to the congress at $5 per capita, cast over 2300 votes at the convention, against about 500 cast by other delegates. The 18 members of the new board of directors, which elected the officers, also included 10 from Louisiana. Frank R. Reid, Representative in Congress from Illinois, was re-elected president; James M. Thompson, of New Orleans, was elected chairman of the board, and Fred D. Beneke, of Memphis, Tenn., was made secretary, succeeding S. A. Thompson, who has held that position for many years.

Several projects recommended to the resolutions committee were referred to the board of directors for consideration but a resolution was adopted directing the president to appoint a committee of five to make representations regarding the proposed St. Lawrence seaway "to the effect that the treaty shall contain nothing which will restrict or impair the opportunity and right of the United States government to construct, maintain, and operate a commercially useful and adequate waterway between the Great Lakes and the sea." In addition to the Louisiana interests other leaders of the organization, from Illinois and elsewhere, are understood to be more interested in the lakes-to-the-Gulf waterway than in the St. Lawrence route.

Surcharge Case Assigned for Hearing at Chicago

The Interstate Commerce Commission has assigned for further hearing at Chicago on February 2 the proceedings in Ex Parte No. 103 in which the railroads have asked a continuation of the freight rate surcharges beyond March 31. The case has also been assigned for oral argument on February 17 at Washington. There will be no other hearing and the Chicago hearing will be limited:

(1) To the receipt of evidence with respect to the continuation, reduction, or elimination of the surcharges on commodities with respect to which various parties have requested an opportunity to be heard, namely: alfalfa meal or chopped alfalfa; bean meal (ground beans); bran, edible; brewers flakes; barley or grain skimmings, malthouse; barley sprouts; barley hulls; beet pulp or residue; cottonseed cake, meal and hulls; copra oil cake and meal; corn oil cake and meal; flax seed oil cake and meal; linseed oil cake and meal; mustard seed; oil cake, n.o.i.b.n.; peanut oil cake and meal; sesame oil cake and meal; soya (soy) bean oil cake and meal; grain, spent dry; malt, malted grain or malt sprouts; wheat, rolled; wheat, cracked; wheat, cream of; farina; feed, animal or poultry, prepared, n.o.i.b.n.; and rolled oats, in carloads; prepared animal and poultry feed; cereals (rolled oats) paints, varnishes and lacquers; kalsomine; lithopone; stains; and wood fillers; in less than carloads; and lake cargo coal; and (2) to such rebuttal as the respondents may have to offer to the oral testimony presented at the hearing, and to the verified statements which have been filed of record.

If there are any parties who, by reason of the fact that they have requested a hearing, have not submitted verified statements, but who will be unable to attend the hearing as herein assigned, they will be allowed until January 31, to file verified statements in lieu of the oral testimony which they would have presented at such hearing.

Briefs in this proceeding will be due February 16.

Seatrain Lines Complain to I.C.C.

Seatrain Lines, Inc., and its subsidiary, the Hoboken Manufacturers' Railway, have filed formal complaints with the Interstate Commerce Commission protesting against the refusal of rail carriers to join with them in through routes and joint rates between New England and eastern territories and the South and Southwest and asking the commission to require the establishment of proper proportional rates to and from New York and New Orleans. The railway company complained that certain of the rail carriers have refused to permit their cars to be delivered to Seatrain vessels and that such refusal has caused it unnecessary expense in transferring freight to other cars to be transported on the vessels.

A recommendation that provision for the payment to Seatrain Lines, Inc., of the amounts provided in its ocean mail contract with the Postoffice Department be included in the Postoffice appropriation bill has been made by the Senate committee on appropriations in reporting to the Senate on the bill which had been passed by the House without any provision for such payment. Payments under the contract have been temporarily held up because the Seatrain company, after having received a construction loan from the Shipping Board and the mail contract on the theory that it was to engage in foreign service with Cuba, has engaged in coastwise service between New York and New Orleans in competition with railroads and steamship services which have protested against the introduction of a subsidized service into that trade.

Meantime an investigation of the affairs of the Seatrain company is being conducted by the Interstate Commerce Commission. The Southern Pacific, by J. R. Bell and G. H. Muckley, its Washington attorneys, had urged the Senate committee to retain in the bill the provision for non-payment under the mail contract, saying:

"Our interest in this matter is as follows: The Southern Pacific Company has for many years operated a line of steamships from North Atlantic ports to Gulf ports, including New York on the one hand and New Orleans on the other. In 1931 the Seatrain Lines negotiated a construction loan from the United States Shipping Board of some two and a half million dollars for the purpose of constructing two car-ferries for operation between New Orleans and New York on the one hand and Cuba on the other. A provision of the loan agreements was that such vessels should be operated exclusively in foreign service unless the specific authority of the Shipping Board was obtained for other operations. At the time the construction loans above referred to were made mail contract No. 56 was awarded to the Seatrain Lines for handling mail between New Orleans and Habana and this contract provided for the payment of approximately $240,000 per year to the Seatrain Lines, and, in view of the small amount of mail moving between Cuba and the United States via New Orleans, in practical effect constituted a subsidy in the above amount. This statement is substantiated by the report of the House Committee on Appropriations as well as your committte, and also by the Postmaster General.

"In spite of the specific purpose to operate these vessels exclusively in foreign service as shown by the records of the Shipping Board at the time the loan was made, the Seatrain Lines have now inserted such vessels in coastwise trade between New York and New Orleans. We object strenuously to any subsidized carrier competing with unsubsidized carriers, such as the Southern Pacific lines."

I. C. C. Asked to Reduce Rates on Basic Commodities

Uniting in a "drive for deflation of the cost of transportation," or at least of the rates charged for it, the National Coal Association, the National Lumber Manufacturers' Association, the American Farm Bureau Federation, the National Grange, and the Farmers' Education and Co-operative Union on January 25 filed with the Interstate Commerce Commission a "memorial petition" urging an immediate and general reduction in (railroad) freight rates on basic commodities to put the level of freight rates in accord with "prevailing economic conditions." Passing lightly over the formalities usually observed in seeking rate changes these organizations ask the commission to order the railroads to appear and show cause why they should not be required to cease and desist from charging the "present unreasonable and inordinately high level of freight rates on all basic commodities" and to readjust their freight rate levels (except in those cases where the rates have been reduced to meet competitive agencies of transportation) "to meet the emergency which continues to confront the basic commercial industries of the country." It is also requested that the proceedings be conducted without burdening the public with the cost and expense of any further public hearings than may be absolutely necessary.

"Since the beginning of the depression and despite all corrective efforts, prices on nearly all commodities have continuously and materially declined. There has not been a corresponding decline in the cost of transportation by rail," the petition declared. "When adequate transportation is not available at reasonable cost, the products of industry and agriculture are denied access to markets and as a result production declines. This is particularly true in the case of those commodities on which the transportation costs constitute a substantial proportion of the sales prices. This destructive process is already under way and it is not without importance that the industries suffering most are those upon which the railroads depend for the maintenance of traffic. It will continue as long as rail transportation costs fail to conform to the prevailing economic trend of lower prices. This process of

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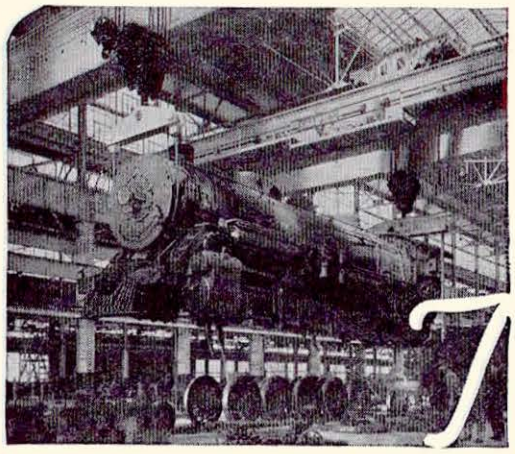

The Maintenance It Saves *justifies . . .*

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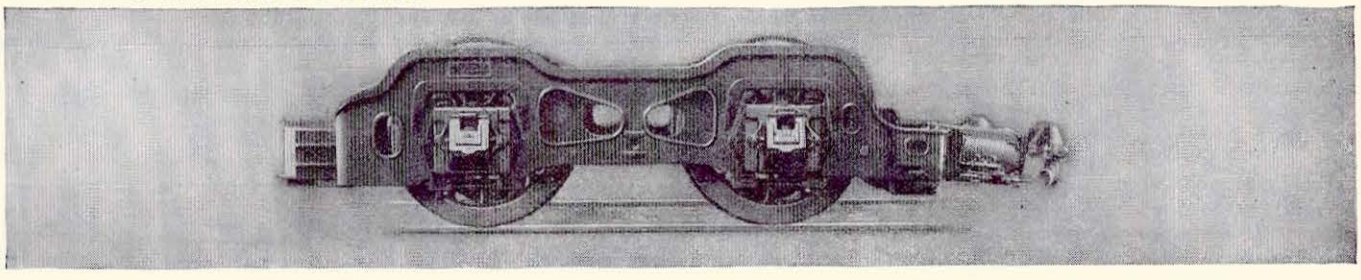

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Equipment and Supplies

LOCOMOTIVES

THE MANUFACTURERS RAILWAY was incorrectly reported in the *Railway Age* of December 31 as inquiring for one oil-electric locomotive.

IRON AND STEEL

THE NORTHERN PACIFIC has ordered 930 tons of tie plates from the Pacific Coast Steel Company.

Supply Trade

J. L. Hays, manager of the railway department of the **Edison Storage Battery Company,** Orange, N. J., since 1929, has resigned.

The Williamsport Wire Rope Company, Williamsport, Pa., has been licensed to manufacture preformed wire rope under the American Cable Company's patents.

E. A. Livingstone has been appointed a sales representative of **The Babcock & Wilcox Company** and **The Babcock & Wilcox Tube Company,** with headquarters at 85 Liberty street, New York City.

E. C. Argust, secretary of the St. Louis Frog & Switch Company, St. Louis, Mo., has been appointed assistant to the president of the **Morden Frog & Crossing Works,** Chicago, following the sale of the business and equipment of the former company to several interests.

Howard A. Holmes has entered the service of the **Inland Steel Company** in its sales department at Detroit, Mich. During the past year Mr. Holmes was assistant district sales manager of the Wierton Steel Company in Chicago, and prior to that time was in the sales office of this company at Detroit.

Lewis W. Hicks, Jr., has been elected assistant secretary and assistant treasurer of the **Allegheny Steel Company,** Brackenridge, Pa. Mr. Hicks began work with the Allegheny Steel Company about five years ago. In order to learn the business he worked in all departments and has now been elected assistant secretary and assistant treasurer. He is a grandson of the founder, Alfred E. Hicks, who organized the company in 1909.

The Pressed Steel Car Company, builders of railroad equipment, with plants at Pittsburgh, Pa., and Chicago, on January 23 obtained a stay granted by the New Jersey Court of Errors and Appeals which will hold in abeyance an action for receivership started by holders of $7,000 of defaulted bonds. The action by this court restrains the receivers taking charge "until further orders, provided officers declare no dividends and make no disbursements except those necessary to current business."

Robert E. Moore, vice-president of the **Transportation Equipment Corporation,** New York, has been elected president to succeed **Thomas J. Crowley,** resigned, and the office of the company has been moved from 230 Park avenue to 92 Liberty street, New York. This company has granted an exclusive license to **Sperry Products, Inc.,** Brooklyn, N. Y., for the manufacture, sale and use of the Mackin automatic locomotive washer, formerly sold by the Transportation Equipment Corporation and now in use on many eastern railways.

Frank H. Gale, manager of conventions and exhibits of the **General Electric Company,** Schenectady, N. Y., has been retired at his own request after 43 years of service with the company. **L. W. Shugg** has been appointed division manager of the publicity department to succeed Mr. Gale in charge of that work. Mr. Gale will continue as secretary-treasurer of the National Electric Light Association exhibitors' committee, and will also have general charge of arrangements for the General Electric Company's participation in the Century of Progress Exposition, Chicago, until it is opened to the public in June.

Stearns-Stafford, Inc., Lawton, Mich., has been organized to take over the Stearns-Stafford division of **George P. Nichols & Brother, Inc.,** and will continue the manufacture of staggered roller bearings at the plant in Lawton which has operated since 1921. **O. F. Packer,** who has been associated with the plant since the time of its origin, and who has operated the business as general manager since 1923, has been appointed president and general manager of the new concern. The remainder of the personnel at the plant remains the same. The new organization will concentrate manufacturing and sales activities on roller bearings for railway equipment, and heavy-duty bearings for industrial purposes.

OBITUARY

K. E. Stilwell, assistant service manager of the Superheater Company, New York, died at his home in Elmira, N. Y., on January 3, after a long illness. Mr. Stilwell was born in 1881. Prior to joining the Superheater Company in June, 1917, he was a traveling engineer and general air-brake inspector on the Delaware, Lackawanna & Western.

C. J. Zeigler, district manager of the Simplex Wire & Cable Company, at Jacksonville, Fla., died on January 12 in the St. Augustine hospital as the result of an accident occurring a few hours before. Mr. Zeigler was struck on the head by a block of wood which glanced off a power saw operating on his river front property at Biera Mar, on Anastasia Island, Fla.

Maurice W. Collins, president and treasurer of the Maloney Oil & Manufacturing Company, with headquarters at Scranton, Pa., and New York, also president of the Herculene Oil Company, Syracuse, N. Y., died recently of influenza at his home in New York, following an illness of a few days. Mr. Collins was born at Montreal, Canada, in 1866, and at the age of 14 he entered the employ of Crew & Levick as an office boy, serving later with that company in its various oil departments for seven years. In 1888 Mr. Collins went to Scranton where he was employed by the Maloney Oil & Manufacturing Company which was founded by his uncle. Mr. Collins was active in the development and growth of this company, of which he became half owner. In 1929 the company sold to the Standard Oil Company of Pennsylvania its gasoline service stations but retained the railroad and road oil business, Mr. Collins remaining as president and treasurer of the company and president of the Herculene Oil Company of Syracuse. He was also interested in financial affairs and had served as a director of various banks.

Leo M. Dunn, vice-president of the Graybar Electric Company, with headquarters at New York, died at his home in Garden City, Long Island, N. Y., on January 20. Mr. Dunn, who was born at Ispheming, Mich., on October 13, 1874, was, at the time of his death, completing 47 years of continuous service with the Bell System and the Graybar Electric Company. He began his business career in March, 1886, as an office boy with the Central District Printing & Telegraph Company of Pittsburgh. In 1910, after 24 years of service in the operating department of the telephone business, Mr. Dunn became connected with the Western

Leo M. Dunn

Electric Company as chief storekeeper, at Pittsburgh, Pa. In 1913, he was made manager at Pittsburgh, and in 1918, was transferred in this capacity to Philadelphia, Pa. Later in 1918 he was appointed assistant eastern district manager, and in 1921 was transferred as manager to New York City. Later in 1921 he became eastern district manager, and in 1923 was appointed general merchandise manager of the entire supply department of the Western Electric Company. When the Graybar Electric Company was formed in 1926, Mr. Dunn was made a vice-president, the position he was holding at the time of his death.

John B. Lord, chairman of the board of the Ayer & Lord Tie Company, Chicago, died in that city on January 21 after an illness of 10 months. He was

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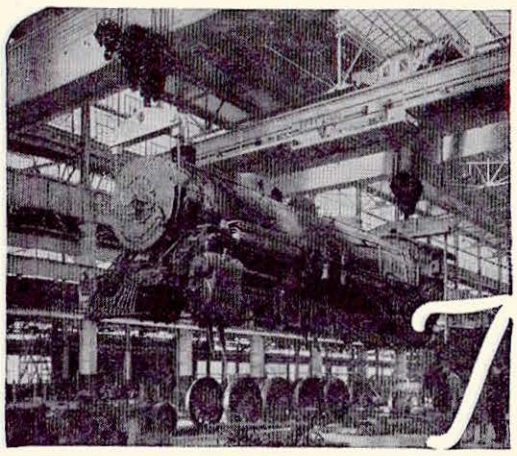

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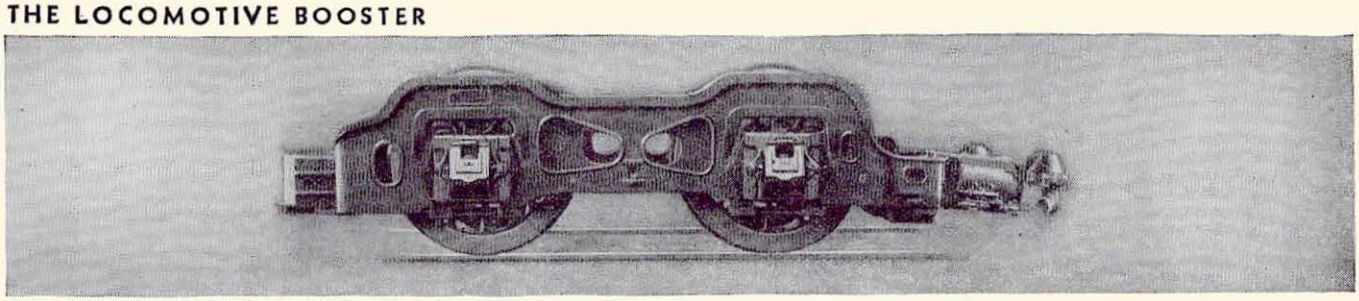


FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

destruction must be arrested before the industries called upon to pay excessive transportation charges are completely destroyed. The level of freight rates must be adjusted so as to put it in accord with prevailing economic conditions. The price of railroad transportation is one of the most vital major factors in the process of production and distribution which is not conforming to the prevailing economic trends of lower prices."

It was asserted that the situation today is similar to that which led the commission to take action in 1922, except that, "the disparity between the level of commodity prices and freight rates is now much greater," and that experience has demonstrated that the action of the commission in ordering an increase in the freight rate level in 1931 did not produce the results sought. It was also argued that a reduction in the freight rate level on basic commodities would tend to discourage undue developments of competitive transportation agencies, and thereby preserve railroad transportation as the dominating factor in our nation's commerce, and that "under conditions which prevail today the value of railroad property and the rate of return on railroad investment must be considered from the standpoint of the ultimate effect of freight rates on traffic and revenues."

Regulation of Waterways Urged by M. W. Harrison

(Continued from page 120)

of a system of tolls, or ton-mile taxation, on waterways; (3) regulation of all water carriers under the supervision of the Interstate Commerce Commission; (4) repeal of provisions prohibiting railroads from engaging in water transportation; (5) discontinuance of operations of the Inland Waterways Corporation.

These recommendations were supplemented by a proposal to discontinue unprofitable transportation service by water at rates claimed by the investors' spokesman to be lower than actual cost the expense of which places added burden upon the taxpayers.

The waterways system, according to figures recently compiled, has cost the national nearly two billion dollars, with hundreds of millions yet to be expended to complete the program, to which cost there must be added still other millions for maintenance.

Mr. Harrison supported his reason for urging cessation of waterway development by pointing out that additional shipping service is unnecessary, especially since railroad facilities are not more than 50 per cent utilized. He claimed that during the period of peak traffic in 1929 the capacity of the railroads was not more than 75 per cent employed. Since 1923 a car shortage has been unheard of and at present, he said, several hundred thousand surplus freight cars are laid up for lack of traffic.

Further development of the Great Lakes-St. Lawrence Waterway "should be discontinued, except where national necessity demands it, especially since two adequate water routes already exist and since completion of the new system would entail great expense and disturb existing traffic arrangements of eastern American ports while at least 90 per cent of the transportation savings will go to Canadian shippers."

Amplifying his recommendations for a national transportation policy, Mr. Harrison continued:

"I do not mean that expenditures should cease upon the Great Lakes and other natural waterways, which are an economic asset to the nation. I do not mean that expenditures on harbor improvements should cease. Harbors are essential to foreign commerce and the distribution of our surplus products. I do not mean that expenditures for flood control should be curtailed. I mean, however, that we should cease the wasteful and expensive experiment of enriching shippers at public expense by creating and maintaining artificial waterways, and encouraging traffic to move over them by imposing insurmountable restrictions upon the railroads. The elimination of such items from public expenditures seems particularly imperative at this time when national credit is staggering under the burden of an unbalanced budget. The Shipstead-Mansfield bill, proposing a bond issue of a half a billion dollars, or any other attempt of a similar nature to increase the bonded debt of the nation for waterway purposes, must be defeated.

"It is economically unsound that the railroads should be required to build, maintain and pay taxes upon rights-of-way while similar facilities are donated, tax-free and toll-free, to inland water carriers. We have the waterways, we cannot destroy them nor can we ever expect that they will be self-supporting. We can, however, institute a series of reasonable charges for the use of public property which will help to offset the expenditures now charged to the taxpayer. Every attempt to force the water carriers to pay a share of the cost of the facilities which they use is met with the retort that it has always been a policy of Congress to subsidize a new and growing agency of transportation.

"The reference is, of course, to the land grants and monetary subsidies given by Federal, State and local governments towards early railway construction. No comparison could be more erroneous or misleading. The government was and still is economically benefited from its assistance to the railroads.

"The ideal form of competition is not a competition between different agencies of transportation, but a competition between strong national transportation systems embracing all agencies. The railroads should not only be permitted to go into water and other fields of transportation, supplementing the services to their own, but should be forced to do so. Out of transportation co-ordination will come keener competition and more efficient service for the shipper, as well as strong and stable transportation credit and financial structures. The provision of the Panama Canal Act prohibiting railroads from owning water lines should be repealed.

"It is an economic anomoly that this government, founded upon the principle of private enterprise and initiative, should operate the Inland Waterways Corporation in competition with its citizens. The Corporation was formed with the assurance that its operations were designed merely to test the practicability of water transportation, and would ultimately be sold to private interests. Eight years of operation by the Corporation should be a sufficient test. If it has not established itself on a basis which will warrant the investment of private capital it should be abandoned."

Mr. Harrison said that our viewpoint upon the waterway problem must be that of "enlightened national self-interest, without regard to the selfish interests of any particular group."

Urging equable regulation of waterways and railways, he continued: "If it is sound public policy that the railroads be regulated why is it not also sound public policy that water carriers be similarly regulated? Prior to the extension of regulation to the rail lines, transportation was in a chaotic state. The rise of water transportation has created a similar condition without that industry. Uniform regulation of water carriers is essential to the stabilization of that industry as well as the transportation industry as a whole. Intercoastal carriers have accepted this fact as is reflected by current proposed legislation which, with the support of such carriers, is designed to bring rates under the authority of the Shipping Board and end the exhaustive rate wars which have so depleted the revenues of the carriers.

"Inland waterways, on the other hand, have utilized to the full their advantage as unregulated agencies. They have fought any proposal of regulation and at the same time have fought every effort of the rail carriers to break through the wall of regulation with which they are surrounded, and preserve their traffic through the medium of lowered rates."

The inroads of water competition upon railroads in the Mississippi Valley were illustrated by the sugar traffic, of which the rail carriers handle less than one-tenth of the tonnage. Mr. Harrison contended that this is not a fair share of the traffic nor is there equal opportunity for the railroads to compete with the water routes for this traffic.

"The railroads," he continued, "have not yet been replaced as the axis around which our national commerce revolves. They are as essential to the well-being of the nation as they were at the turn of the century and must remain indispensable at least for many years to come. It is folly for our government to undertake from public funds to subsidize a route for competitors which must, if successful, impair the ability of the railroads to perform their task with proper efficiency, yet if the large proportion of the freight carried on the waterway represents diversion from the railroads, what other result can there be?"

The government-owned Inland Waterways Corporation is responsible for the greater part of this diversion in the territory along the Mississippi river, Mr. Harrison pointed out, as he concluded with quotations from the revenue and traffic statistics published by this Federal Barge Line.

F. J. Lisman spoke briefly to supplement Mr. Harrison's remarks concerning the Inland Waterways Corporation and to urge all those attending the meeting to carry on an unceasing agitation with their Congressmen and other public officials for the retirement of the government from the transportation business.

Continued on next left-hand page

GOOD BRICK
is just the start

of AMERICAN ARCH COMPANY SERVICE . . .

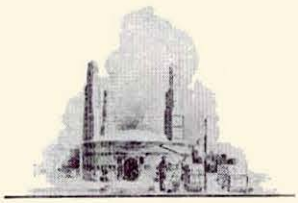
BESIDES supplying the railroads with the pick of the Arch Brick from the country's largest and finest brick plants, advantageously located, American Arch Company serves:

1 By designing the most efficient Arches for new locomotives.

2 By counseling on combustion problems that arise due to changes in locomotive equipment.

3 By standardization of Brick shapes and sizes and by advice on storekeeping problems that concern Arch Brick supply.

4 By continuous follow through on Arch Brick performance that insures the railroads the maximum performance from each dollar's worth of Arch Brick.



THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

Only American Arch Company has the 22 years experience and the organization to perform this service.

HARBISON-WALKER REFRACTORIES CO.
Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion Specialists › › ›

Equipment and Supplies

LOCOMOTIVES

THE MANUFACTURERS RAILWAY was incorrectly reported in the *Railway Age* of December 31 as inquiring for one oil-electric locomotive.

IRON AND STEEL

THE NORTHERN PACIFIC has ordered 930 tons of tie plates from the Pacific Coast Steel Company.

Supply Trade

J. L. Hays, manager of the railway department of the **Edison Storage Battery Company,** Orange, N. J., since 1929, has resigned.

The Williamsport Wire Rope Company, Williamsport, Pa., has been licensed to manufacture preformed wire rope under the American Cable Company's patents.

E. A. Livingstone has been appointed a sales representative of **The Babcock & Wilcox Company** and **The Babcock & Wilcox Tube Company,** with headquarters at 85 Liberty street, New York City.

E. C. Argust, secretary of the St. Louis Frog & Switch Company, St. Louis, Mo., has been appointed assistant to the president of the **Morden Frog & Crossing Works,** Chicago, following the sale of the business and equipment of the former company to several interests.

Howard A. Holmes has entered the service of the **Inland Steel Company** in its sales department at Detroit, Mich. During the past year Mr. Holmes was assistant district sales manager of the Wierton Steel Company in Chicago, and prior to that time was in the sales office of this company at Detroit.

Lewis W. Hicks, Jr., has been elected assistant secretary and assistant treasurer of the **Allegheny Steel Company,** Brackenridge, Pa. Mr. Hicks began work with the Allegheny Steel Company about five years ago. In order to learn the business he worked in all departments and has now been elected assistant secretary and assistant treasurer. He is a grandson of the founder, Alfred E. Hicks, who organized the company in 1909.

The Pressed Steel Car Company, builders of railroad equipment, with plants at Pittsburgh, Pa., and Chicago, on January 23 obtained a stay granted by the New Jersey Court of Errors and Appeals which will hold in abeyance an action for receivership started by holders of $7,000 of defaulted bonds. The action by this court restrains the receivers taking charge "until further orders, provided officers declare no dividends and make no disbursements except those necessary to current business."

Robert E. Moore, vice-president of the **Transportation Equipment Corporation,** New York, has been elected president to succeed **Thomas J. Crowley,** resigned, and the office of the company has been moved from 230 Park avenue to 92 Liberty street, New York. This company has granted an exclusive license to **Sperry Products, Inc.,** Brooklyn, N. Y., for the manufacture, sale and use of the Mackin automatic locomotive washer, formerly sold by the Transportation Equipment Corporation and now in use on many eastern railways.

Frank H. Gale, manager of conventions and exhibits of the **General Electric Company,** Schenectady, N. Y., has been retired at his own request after 43 years of service with the company. **L. W. Shugg** has been appointed division manager of the publicity department to succeed Mr. Gale in charge of that work. Mr. Gale will continue as secretary-treasurer of the National Electric Light Association exhibitors' committee, and will also have general charge of arrangements for the General Electric Company's participation in the Century of Progress Exposition, Chicago, until it is opened to the public in June.

Stearns-Stafford, Inc., Lawton, Mich., has been organized to take over the Stearns-Stafford division of **George P. Nichols & Brother, Inc.,** and will continue the manufacture of staggered roller bearings at the plant in Lawton which has operated since 1921. **O. F. Packer,** who has been associated with the plant since the time of its origin, and who has operated the business as general manager since 1923, has been appointed president and general manager of the new concern. The remainder of the personnel at the plant remains the same. The new organization will concentrate manufacturing and sales activities on roller bearings for railway equipment, and heavy-duty bearings for industrial purposes.

OBITUARY

K. E. Stilwell, assistant service manager of the Superheater Company, New York, died at his home in Elmira, N. Y., on January 3, after a long illness. Mr. Stilwell was born in 1881. Prior to joining the Superheater Company in June, 1917, he was a traveling engineer and general air-brake inspector on the Delaware, Lackawanna & Western.

C. J. Zeigler, district manager of the Simplex Wire & Cable Company, at Jacksonville, Fla., died on January 12 in the St. Augustine hospital as the result of an accident occurring a few hours before. Mr. Zeigler was struck on the head by a block of wood which glanced off a power saw operating on his river front property at Biera Mar, on Anastasia Island, Fla.

Maurice W. Collins, president and treasurer of the Maloney Oil & Manufacturing Company, with headquarters at Scranton, Pa., and New York, also president of the Herculene Oil Company, Syracuse, N. Y., died recently of influenza at his home in New York, following an illness of a few days. Mr. Collins was born at Montreal, Canada, in 1866, and at the age of 14 he entered the employ of Crew & Levick as an office boy, serving later with that company in its various oil departments for seven years. In 1888 Mr. Collins went to Scranton where he was employed by the Maloney Oil & Manufacturing Company which was founded by his uncle. Mr. Collins was active in the development and growth of this company, of which he became half owner. In 1929 the company sold to the Standard Oil Company of Pennsylvania its gasoline service stations but retained the railroad and road oil business, Mr. Collins remaining as president and treasurer of the company and president of the Herculene Oil Company of Syracuse. He was also interested in financial affairs and had served as a director of various banks.

Leo M. Dunn, vice-president of the Graybar Electric Company, with headquarters at New York, died at his home in Garden City, Long Island, N. Y., on January 20. Mr. Dunn, who was born at Ispheming, Mich., on October 13, 1874, was, at the time of his death, completing 47 years of continuous service with the Bell System and the Graybar Electric Company. He began his business career in March, 1886, as an office boy with the Central District Printing & Telegraph Company of Pittsburgh. In 1910, after 24 years of service in the operating department of the telephone business, Mr. Dunn became connected with the Western

Leo M. Dunn

Electric Company as chief storekeeper, at Pittsburgh, Pa. In 1913, he was made manager at Pittsburgh, and in 1918, was transferred in this capacity to Philadelphia, Pa. Later in 1918 he was appointed assistant eastern district manager, and in 1921 was transferred as manager to New York City. Later in 1921 he became eastern district manager, and in 1923 was appointed general merchandise manager of the entire supply department of the Western Electric Company. When the Graybar Electric Company was formed in 1926, Mr. Dunn was made a vice-president, the position he was holding at the time of his death.

John B. Lord, chairman of the board of the Ayer & Lord Tie Company, Chicago, died in that city on January 21 after an illness of 10 months. He was

Continued on next left-hand page

What are Remanufactured Superheater Units ?

There is no comparison between the Elesco unit remanufacturing service and any other method of repairing or restoring unserviceable units. It is not a repair service. It is a method for rebuilding or remanufacturing units practically equal to new in the kind and length of service they render.

REMANUFACTURED superheater units are units that have been rebuilt from old, unserviceable units . . .

They are properly proportioned to give the high efficiency of new equipment.

They have full strength throughout their length . . . they do not fail in service.

This is because return bends and ball ends are integrally forged with the tubing.

They have new bands and supports . . . ball ends are faced, ground and blocked . . . they have cinder shields. Each unit has a new heat-treated bolt with washer and nut.

Elesco remanufactured superheater units look so much like new Elesco units that they are painted red to distinguish them from new units which are painted black.

Send your unserviceable superheater units to the Elesco plant where they will be REBUILT---not REPAIRED--- at a nominal cost. They will be returned to you within two weeks.

THE SUPERHEATER COMPANY

Representative of American Throttle Company, Inc.

60 East 42nd Street
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Peoples Gas Building
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Superheaters • Feed Water Heaters • Exhaust Steam Injectors • Superheated Steam Pyrometers • American Throttles

born at Newton Upper Falls, Mass., on June 3, 1848, and entered his father's grain and flour business in 1867. From 1875 to 1882, he was a general buyer and shipper of grain in central Illinois. In the latter year, he entered the railroad lumber supply business with C. W. Powell at Paris, Ill., and Chicago, which occupation he followed until 1893, when he became president and manager of the Ayer & Lord Tie Company. He held the latter position until 1924, when he was elected chairman of the board, the position he occupied until the time of his death. Among his various enterprises, he was particularly

John B. Lord

active in wood preservation, constructing the Carbondale (Ill.) treating plant of the Ayer & Lord Tie Company in 1903. In addition, he was responsible for the initial importation of creosote in tank steamers. Mr. Lord was also intensely interested in civic matters. He donated a large collection of books to the Newberry library in Chicago and helped to organize other public institutions. In 1893, he made possible the construction of a wood treating plant exhibited at the World's Fair in Chicago, this plant being later moved to Little Rock, Ark., where it is still in operation. At the time of his death, he was treasurer and vice-president of the Presbyterian Hospital in Chicago, chairman of the Central committee of the Y.M.C.A. and a director of the Harris Trust & Savings Bank.

Construction

Los Angeles, Cal.—The Atchison, Topeka & Santa Fe, the Los Angeles & Salt Lake, and the Southern Pacific have petitioned the Interstate Commerce Commission to re-open and reconsider the proceedings in which it issued the necessary certificates of authorization in connection with an order of the California Railroad Commission requiring the three companies to construct a new union passenger terminal at Los Angeles. They said that economic conditions have so changed as to make it increasingly difficult to provide funds for capital expenditures and that they wish to present a plan for providing terminal facilities at Los Angeles at a lower cost.

Financial

Chicago & Eastern Illinois.— *R. F. C. Loan.*—This company has applied to the Reconstruction Finance Corporation and the Interstate Commerce Commission for an extension to January 1, 1936, of the maturity date of loans for $5,840,000 which it has obtained during the past year from the corporation and which are now due on September 1, 1933, and January 1, 1934. It states that it will be unable to pay because of the depression.

Chicago & North Western.—*R. F. C. Loan.*—This company has applied to the Reconstruction Finance Corporation for a loan of $11,127,700 to meet maturing liabilities of interest, equipment trust certificates, and debentures. The Chicago, St. Paul, Minneapolis & Omaha has applied for authority to issue and sell to the Northwestern $45,186,000 of first mortgage 5 per cent bonds, in exchange for its note for that amount for advances, and also an additional $1,000,000 of similar bonds, and the Northwestern has applied for authority to guarantee $45,636,000 of the bonds to be pledged as collateral.

Delaware & Hudson.—*Notes.*—The Interstate Commerce Commission has authorized this company to issue and reissue not exceeding $7,500,000 of promissory notes.

Delaware & Hudson.—*Dividend.*—The Delaware & Hudson Company, which controls the Delaware & Hudson R. R. Corporation, has deferred action on its common dividend.

Interest in New York Central.—This company has announced its ownership of 10 per cent of the capital stock of the New York Central.

Minneapolis & St. Louis.—*Receiver's Certificates.*—The Interstate Commerce Commission has authorized the receiver of this company to issue $185,000 of receiver's certificates to renew a like amount maturing.

Minnesota Western. — *Acquisition.* — The Interstate Commerce Commission has authorized the Minnesota Western Railway Company to acquire and operate the railroad formerly owned by the Minnesota Western Railroad Company.

Missouri Pacific.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority for the authentication and delivery of $12,000,000 of first refunding mortgage 5 per cent bonds to be pledged as collateral for loans from the Reconstruction Finance Corporation and the Railroad Credit Corporation.

Mount Hood.—*R. F. C. Loan Denied.*—The Interstate Commerce Commission has denied approval of this company's application for a loan of $125,000 from the Reconstruction Finance Corporation.

Pennsylvania. — *Declares Dividend.* — The directors of this company have declared a dividend of 50 cents per share on its capital stock, the last payment, of similar amount, having been made a year ago. Further dividends this year, the directors stated, cannot be expected unless business improves. The declaration of this dividend continues unbroken the company's record of a dividend in every year since 1847.

Pittsburg, Shawmut & Northern.—*Committees Adopt Reorganization Plan.*—A plan of reorganization of this company, which is in receivership, has been adopted by committees representing interested security holders. The outstanding securities involved comprise $2,044,350 of receiver's certificates, $733,000 first mortgage 5s, dated 1892, and $164,000 first mortgage 5s, dated 1899, of the Central New York & Western Railroad, and $14,491,600 refunding 4s, dated 1902, of the Pittsburg, Shawmut & Northern. The New York Court of Appeals and the United States Circuit Court of Appeals, Third circuit, have determined that the receiver's certificates are a prior lien on the railroad's property. Under the plan, a successor company would be formed which would be capitalized approximately as follows: $2,500,000 authorized first mortgage twenty-year 6s, of which $2,110,000 would be outstanding; $3,400,000 second mortgage twenty-year income 5s, of which $3,045,000 would be outstanding, and 30,000 authorized and outstanding shares. For each $100 of receiver's certificates would be exchanged $100 of new 6s, $22 of second 5s and 0.4 common share; for each $1,000 Central New York & Western 5s, $1,000 new second 5s and eight common shares; for each $1,000 Pittsburg, Shawmut & Northern 4s, $100 second 5s and 0.7 common share; for each $1,000 Pittsburg, Shawmut & Northern 5s, $250 second 5s and 1.75 common shares.

Richmond, Fredericksburg & Potomac. —*Recapture Case Appealed to Supreme Court.*—This company has filed a petition in the Supreme Court of the United States seeking a determination as to the right of the federal government to withhold sums due it for the transportation of the mails and other services against the Interstate Commerce Commission's claim against the company for nearly $700,000 of alleged excess income under the recapture clause. The court of appeals of the District of Columbia recently dismissed the company's application for an injunction to restrain the comptroller general from withholding the money. The railroad in its petition says that the money is not the property of the United States and that if the money were recoverable under a valid order of the commission it would have been so only by the commission in its capacity as trustee of a fund "exacted of certain members of the transportation fraternity for specific uses to the benefit of that fraternity."

Average Prices of Stocks and of Bonds

	Jan. 24	Last week	Last year
Average price of 20 representative railway stocks..	25.50	25.05	35.63
Average price of 20 representative railway bonds..	58.13	58.03	70.91

Dividends Declared

Dallas Railway Terminal.—7 per cent preferred, 1¾ per cent, quarterly, payable February 1 to holders of record January 20.

North Carolina.—7 per cent preferred, 3½ per cent, semi-annually, payable February 1 to holders of record January 20.

Continued on next left-hand page

300 H. P.
Total Weight
114,000 lb.
Tractive Power Starting
34,200 lb.

"The ALCO Diesel Locomotive Is More Than Just Another Oil-Electric"

Figures are now available showing the cost of operation for one year of the first 300 H.P. Diesel Locomotive equipped with the new Alco type solid-injection Diesel engine.

This first year of operation covered 6,258 hours, or an average of 20 hours each day, 6 days each week.

Fuel Oil	$1,064.46
Lubricating Oil	220.00
Miscellaneous Supplies	432.00
Maintenance	1,528.00
Total	$3,244.46

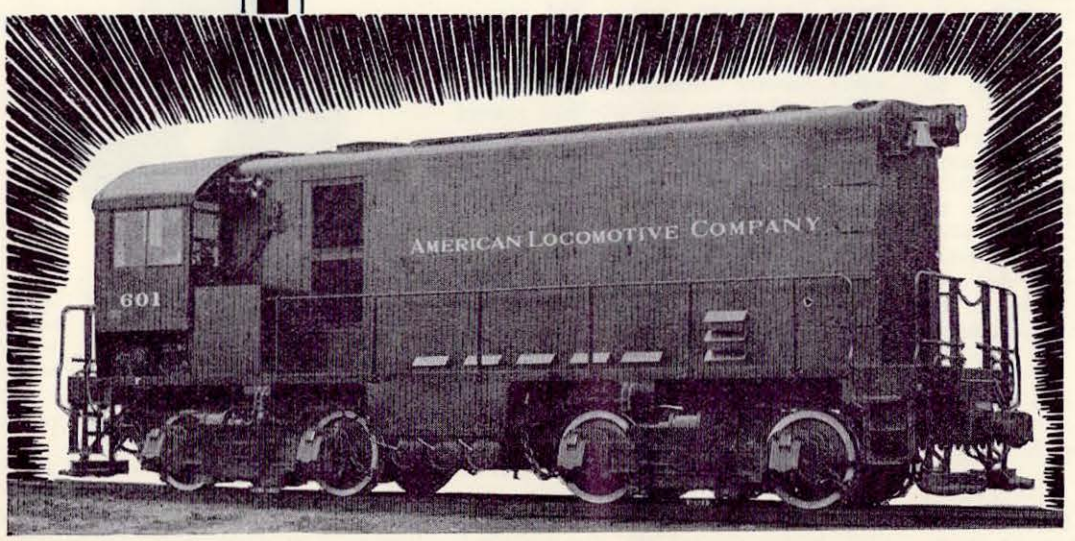
The maintenance shown is for running repairs only—classified repairs must be provided for every three to six years, depending upon operating conditions.

Also, wages of engineman and train crew are omitted. However, the operation of this type of locomotive requires only one man.

Where the more intensive switching service prevails, the Diesel locomotive provides an opportunity for an exceedingly attractive investment.

American Locomotive Company

30 Church Street New York N.Y.



600 H. P.
Total Weight
202,000 lb.
Tractive Power Starting
60,600 lb.

Railway Officers

EXECUTIVE

E. W. Smith, who has resigned as co-receiver of the Seaboard Air Line to return to the Pennsylvania as vice-president in charge of consolidation work and other duties directly under **W. W. Atterbury,**

E. W. Smith

president, was born in Clarksburg, W. Va., on September 21, 1885, and received his education at the Virginia Polytechnic Institute, from which he was graduated in 1905. In June of that year he entered railway service with the Pennsylvania, serving in various positions in the motive power department. In October, 1913, he was appointed assistant master mechanic at Wilmington, Del., and was transferred in the same capacity to Altoona, Pa., in April, 1915. The following year he became assistant engineer of motive power. He was transferred to Harrisburg, Pa., on October 10, 1917, as master mechanic, and on May 26, 1918, to Williamsport, Pa., as superintendent of motive power. He returned to Altoona as superintendent of motive power in December, 1919, and the following year was promoted to engineer of transportation on the staff of the vice-president in charge of operation at Philadelphia. He was appointed general superintendent of motive power at St. Louis, Mo., on October 15, 1922; two years later he was promoted to general superintendent of the Western Pennsylvania division, and in September, 1926, he was appointed general manager of the Eastern region. Mr. Smith, in September, 1928, was advanced to regional vice-president of the Pennsylvania, leaving that company in December, 1930, to accept an appointment as co-receiver of the Seaboard Air Line.

Henry W. Anderson, who has been appointed co-receiver for the Seaboard Air Line, succeeding **E. W. Smith,** resigned, was born on December 20, 1870, in Dinwiddie County, Va. He was graduated in law from Washington and Lee University in June, 1898, and received an LL.B. degree in 1916. Mr. Anderson entered railway service in the claim department of the Richmond-Danville on July 1, 1889, for the purpose of learning the railroad business before studying law. After six months he was transferred to the office of division freight and passenger agent at Columbia, S. C., and six months later he became connected with the Norfolk & Western with the title of secretary to division superintendent. He was subsequently transferred to the general claim office of that road at Roanoke, Va., and subsequently for one year he was secretary to the general superintendent. In 1895, he became secretary to the Board of Trade of Roanoke. Mr. Anderson then took up the study of law, graduating from Washington and Lee University in 1898. He entered the firm of Munford & Anderson at Richmond, Va., as assistant division counsel of the Southern Railway, and on January 1, 1902, he became a member of the firm of Munford, Hunton, Williams & Anderson, Richmond, Va., which firm was division counsel for the Southern and also for the Seaboard Air Line. He served as general counsel for the International-Great Northern from 1912 to 1914; counsel of minority stockholders in the Nickel Plate consolidation case, 1925-1926, before the Interstate Commerce Com-

Henry W. Anderson

mission; counsel for minority stockholders in the Chicago, Milwaukee & St. Paul reorganization before the Interstate Commerce Commission, and special counsel from 1929 to date for Baltimore & Ohio in consolidation matters before the Interstate Commerce Commission. In December, 1930, Mr. Anderson was appointed counsel to the receivers for the Seaboard Air Line, and in December, 1932, he was appointed co-receiver for that road.

OPERATING

J. J. Scully, general manager, eastern lines, of the Canadian Pacific, has been granted leave of absence until May 1, 1933, and his duties will be assumed by **H. J. Humphrey,** assistant to the vice-president at Montreal, Que.

A. J. Davidson, general manager of the Spokane, Portland & Seattle, with headquarters at Portland, Ore., has retired, having reached the age prescribed for retirement, and **W. C. Sloan,** general manager of the Northern Pacific, with headquarters at Seattle, Wash., and St. Paul, Minn., has assumed also the duties of general manager of the S. P. & S. The extension of Mr. Sloan's jurisdiction over this road is in accordance with an agreement adopted by the Northern Pacific and the Great Northern, joint owners of the line, under which **Charles Donnelly,** president of the Northern Pacific, became president of the S. P. & S.

TRAFFIC

E. L. Cardle, traffic manager of the Spokane International, with headquarters at Spokane, Wash., has been appointed to the newly-created position of assistant general freight agent for the Canadian Pacific, at Chicago, effective February 1.

John W. Rimmer, at present freight traffic manager of the Boston & Maine, will, upon receiving permission from the Interstate Commerce Commission, be appointed general freight traffic manager of the Boston & Maine and the Maine Central. In his new position Mr. Rimmer will have general supervision of all freight traffic matters of the two railroads.

ENGINEERING AND SIGNALING

W. C. Groth, who has been appointed chief engineer of the Chicago Great Western, with headquarters at Chicago, as noted in the *Railway Age* of January 7, has been connected with this road for 27 years. He was born on September 14, 1882, at Preston, Minn., and was educated in civil engineering at the University of Minnesota. Prior to entering the service of the Great Western on March 1, 1906, he served for a short time as a rodman on the Chicago,

W. C. Groth

Milwaukee, St. Paul & Pacific and on location and construction work on the Minneapolis, St. Paul & Sault Ste. Marie. He first served the Great Western as an instrumentman at St. Paul, Minn., and in 1912 he was advanced to engineer maintenance of way of the Western division, with headquarters at Clarion, Iowa. In 1918 he was transferred to the Northern division at St. Paul, where his title was

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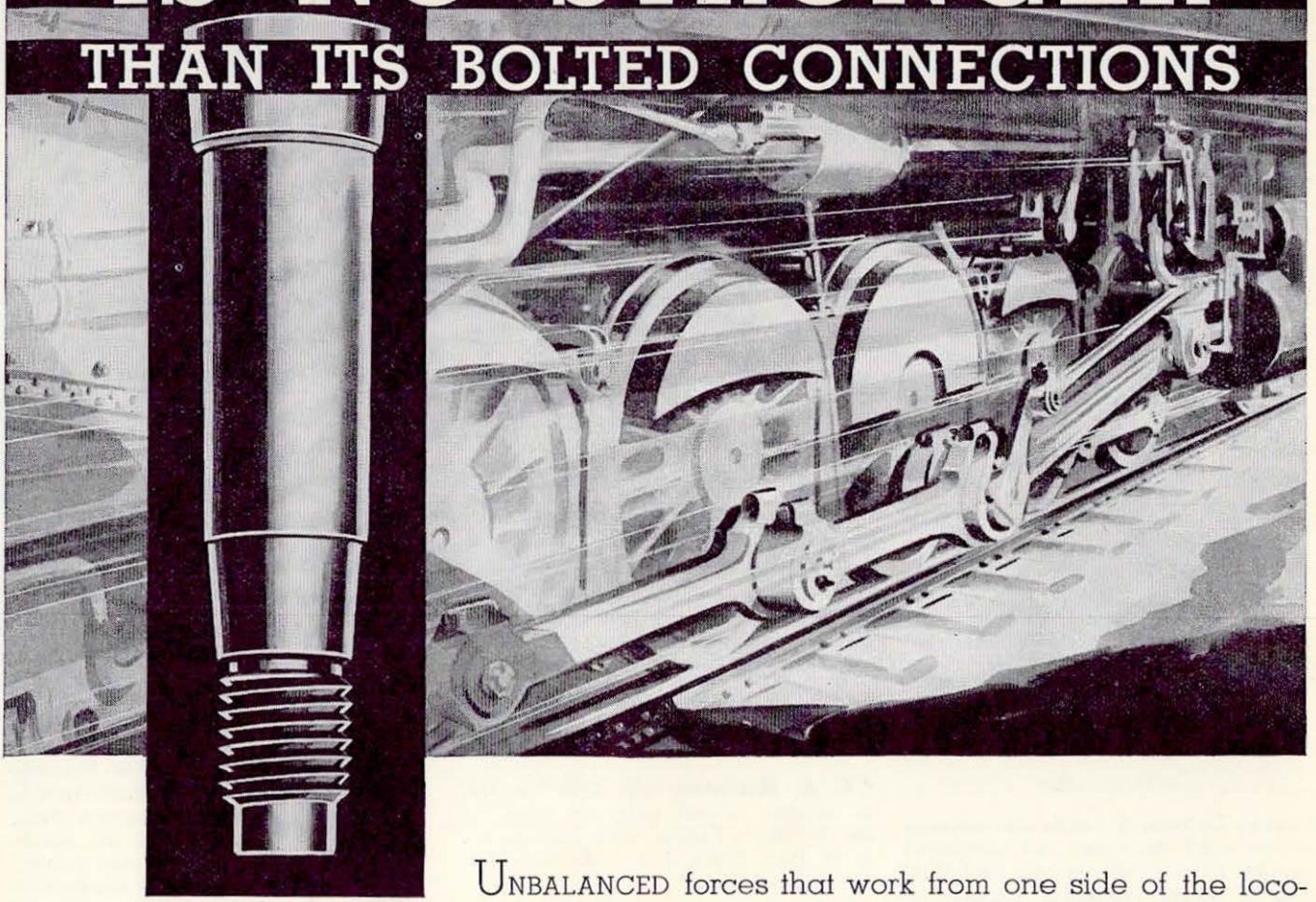
A LOCOMOTIVE IS NO STRONGER THAN ITS BOLTED CONNECTIONS



UNBALANCED forces that work from one side of the locomotive to the other bring a severe stress on engine bolts. » Increased power and high speeds increase these forces until they over-tax the strength of the old materials. Then the bolts stretch and wear creeps in. » Working closely with locomotive designers, Republic metallurgists have studied this problem and have developed an Agathon Engine Bolt Steel with high elastic limit and toughness to withstand the stresses of the very largest locomotives. » Modern railroading needs such modern materials to reduce repairs and improve dependability.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Agathon Iron for pins and bushings • Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel.

CENTRAL ALLOY DIVISION

REPUBLIC STEEL CORPORATION

MASSILLON OHIO

AGATHON STEELS

changed to division engineer in 1929. Mr. Groth retained the latter title until his recent appointment as chief engineer.

MECHANICAL

Francis G. Lister, assistant superintendent of motive power of the St. Louis-San Francisco, who has been promoted to superintendent of motive power, with headquarters as before at Springfield, Mo., has a record of many years' experience in the mechanical departments of various western railroads. He was born on July 8, 1882, at Marysville, Kan., and studied for two years at the University of Nebraska. His first railway service was with the Wabash in 1901, as a special apprentice, becoming a mechanical draftsman a short time later. In 1906, Mr. Lister went with the Northern Pacific as a locomotive and car draftsman, and five years later he went with the

Francis G. Lister

Spokane, Portland & Seattle and affiliated lines as chief draftsman and mechanical engineer, serving this company until 1916, when he became mechanical engineer of the El Paso & Southwestern (now part of the Southern Pacific). In 1924, Mr. Lister was appointed master car repairer on the Southern Pacific, at El Paso, Tex., and in 1926 he left this company to go with the St. Louis-San Francisco as chief mechanical engineer. On January 1, 1931, he was promoted to assistant superintendent of motive power, which position he continued to hold until his recent appointment as superintendent of motive power, effective January 1.

PURCHASES AND STORES

Harrison M. Rainie, newly appointed purchasing agent of the Boston & Maine, with headquarters at Boston, Mass., was born at Concord, N. H., on September 12, 1892. Mr. Rainie's entire railroad career has been in the service of the B. & M. He entered the employ of that road on September 27, 1909, in the mechanical department of the Concord shops. In 1914, he was transferred to the Billerica (Mass.) shops, stores department; and in the following year he was appointed storekeeper at Charlestown, Mass. In 1916, he returned to the Billerica shops as assistant storekeeper. In 1919, he was assigned to the regional purchasing committee as one of the assistant supervisors of stores, Eastern region. In 1920 he returned to the Billerica shops as acting storekeeper, and in 1924 he was transferred to the purchasing de-

H. M. Rainie

partment as head clerk. In 1925, his title was changed to assistant to purchasing agent, which position he held until his recent promotion.

OBITUARY

Bernard H. Coyle, assistant general freight agent of the Wabash at St. Louis, Mo., died suddenly on January 11 at that place, at the age of 72 years.

A. C. Mackenzie, engineer maintenance of way, Eastern lines of the Canadian Pacific, with headquarters at Montreal, Que., died suddenly there on January 24.

C. A. Matthews, who retired in 1923 as assistant general passenger agent for the Northern Pacific, with headquarters at St. Paul, Minn., died on January 11 at Los Angeles, Cal.

Miles Bronson, who retired a year ago as manager of the Grand Central terminal of the New York Central, in New York, died at St. John's hospital in Yonkers, N. Y., after a prolonged cardiac illness. He was 58 years old.

L. C. Hartley, who retired in June, 1931, as chief engineer of the Chicago & Eastern Illinois, died on December 15 at Chicago. Mr. Hartley had spent 31 years in various positions in the signal and engineering departments of the C. & E. I. He was born on December 29, 1871, at Masontown, W. Va., and was educated at Ohio State University. His first railway service was with the signal department of the Pittsburgh, Cincinnati, Chicago & St. Louis (now part of the Pennsylvania), in 1898. Two years later he left this company to go with the C. & E. I. as an assistant on the engineering corps, being appointed assistant engineer in 1904. Three years later he was promoted to signal engineer and in 1910 he was further advanced to engineer maintenance of way. Mr. Hartley became chief engineer of the C. & E. I. in 1911, and held this position continuously until his retirement. From 1917 until his retirement, except during the period of federal control of the railroads, he served also as chief engineer of the Southern Illinois & Missouri Company, which owns and operates the bridge over the Mississippi river at Thebes, Ill. During federal control of the railroads, Mr. Hartley was also chief engineer of the Chicago, Terre Haute & Southeastern (now part of the Chicago, Milwaukee, St. Paul & Pacific),

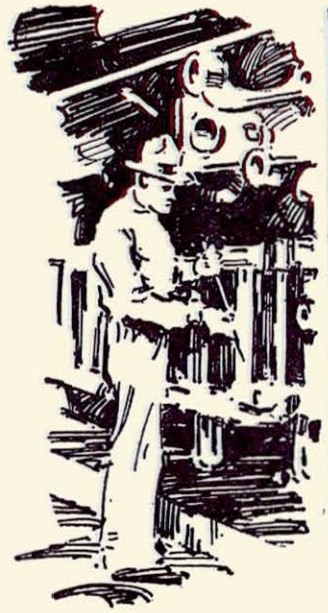
L. C. Hartley

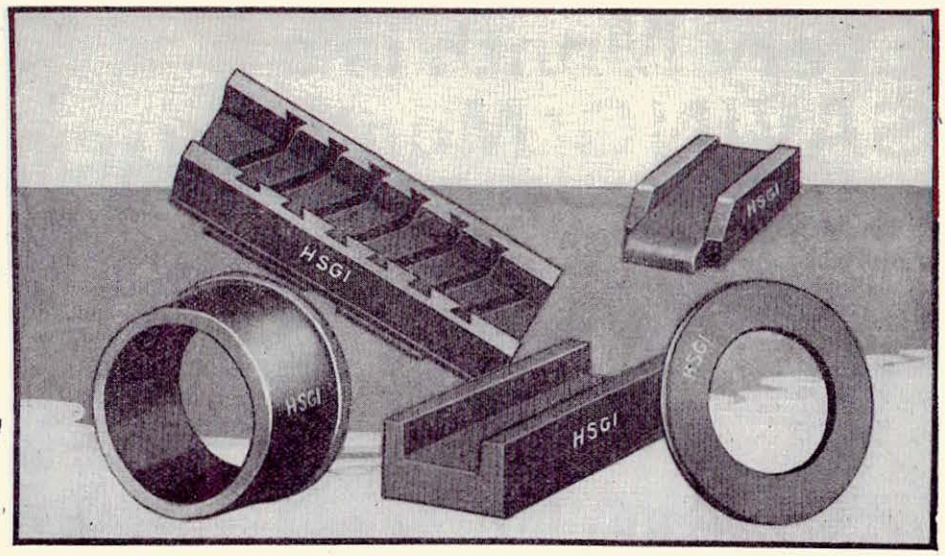
and of the Evansville & Indianapolis (now part of the Cleveland, Cincinnati, Chicago & St. Louis). In 1928 he was also made chief engineer of the Chicago Heights Terminal Transfer Railroad.

Joseph W. Blabon, retired vice-president of the Chicago Great Western, who died at New York on January 10, as noted in the *Railway Age* of January 14, was born on April 27, 1858, at Farmington, Me. He entered railway service on May 1, 1891, with the Great Northern as purchasing agent at St. Paul, Minn. On February 21, 1899, Mr. Blabon was transferred to the traffic department as western traffic manager, with headquarters at Seattle, Wash., where he remained until January 1, 1902, when he was elected fourth vice-president. Mr. Blabon left the service of the Great Northern on January 1, 1905, to become freight traffic manager of the Chicago & Alton (now the Alton), re-

Joseph W. Blabon

maining with this road until September 1, 1909, when he was elected vice-president of the Chicago Great Western, with headquarters at Chicago. He retained this position until September, 1918, when he retired. Since his retirement Mr. Blabon has resided in New York.





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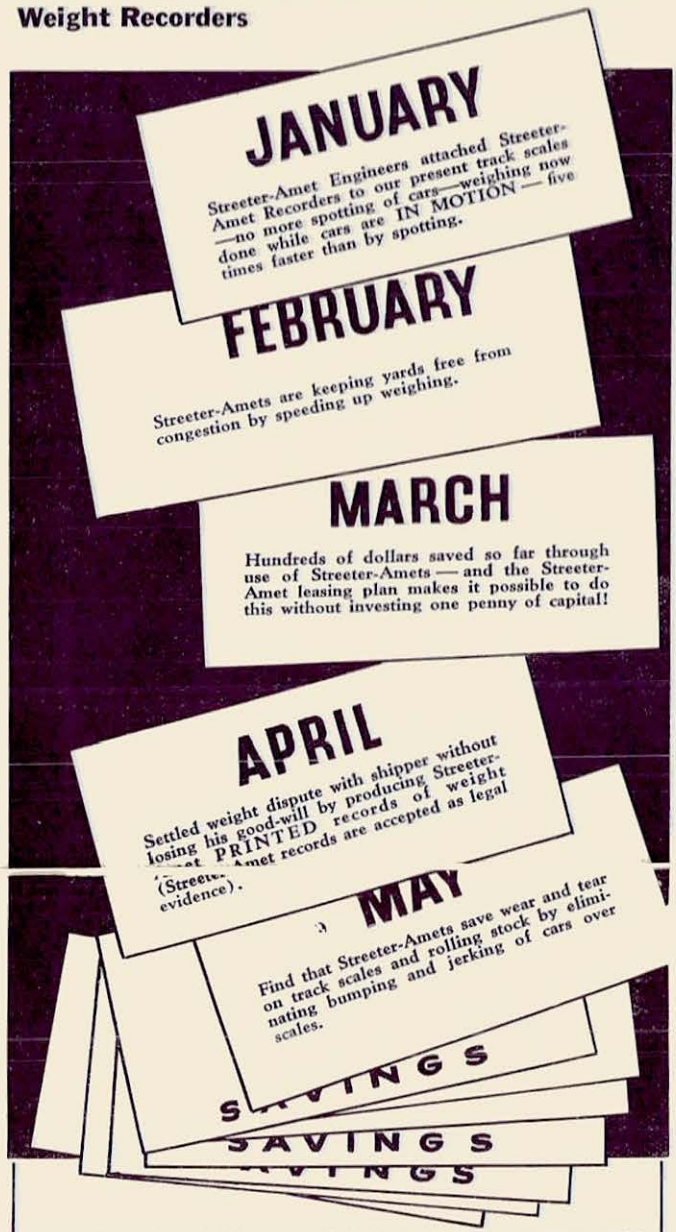
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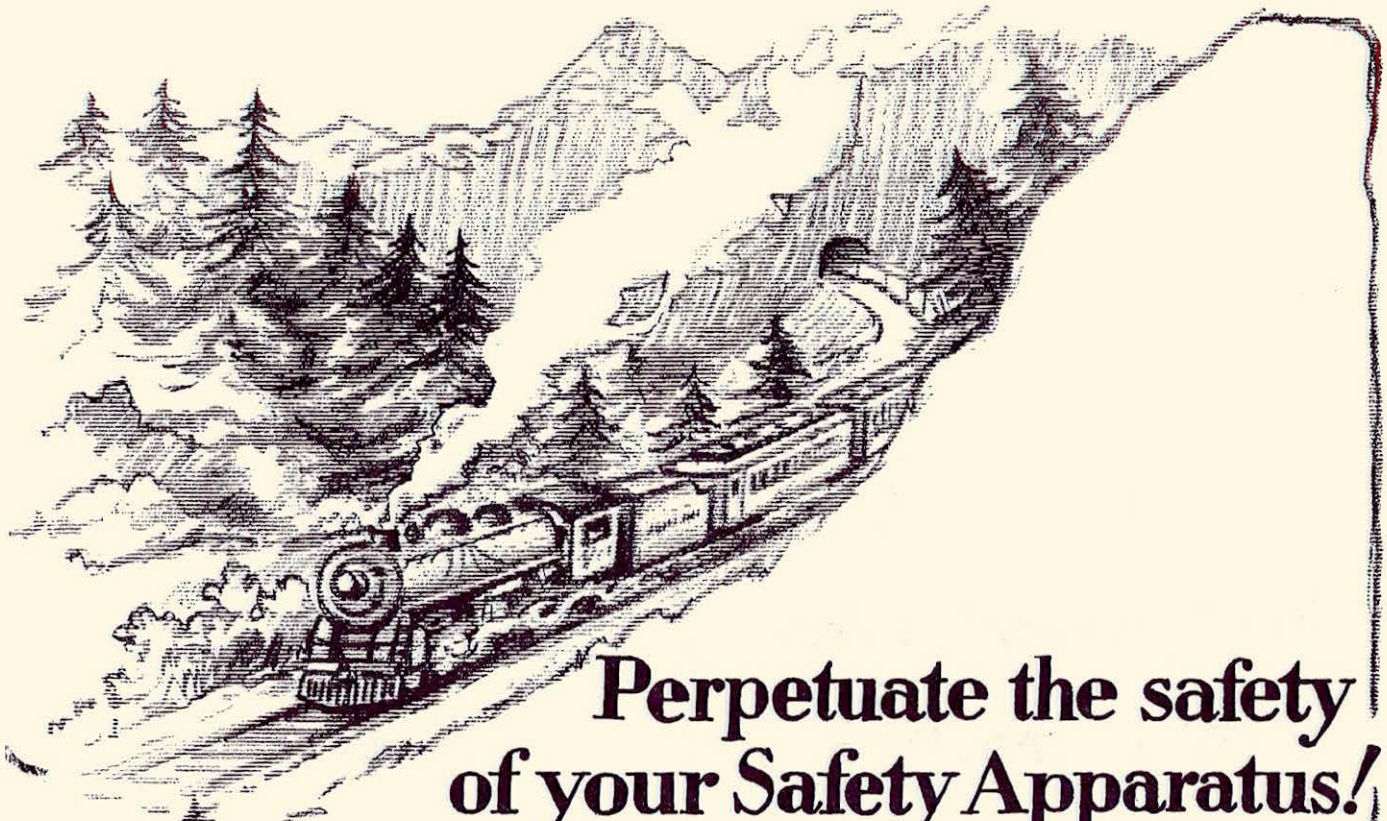

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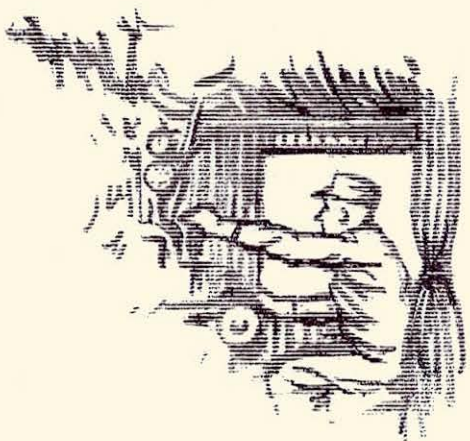

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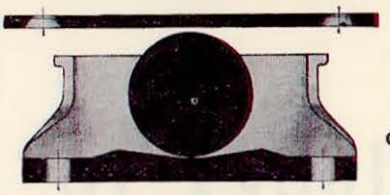
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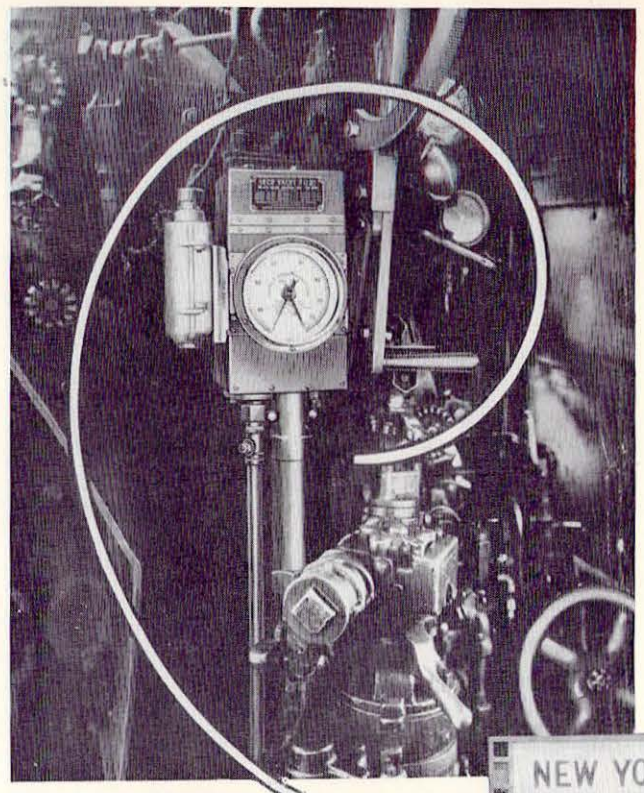

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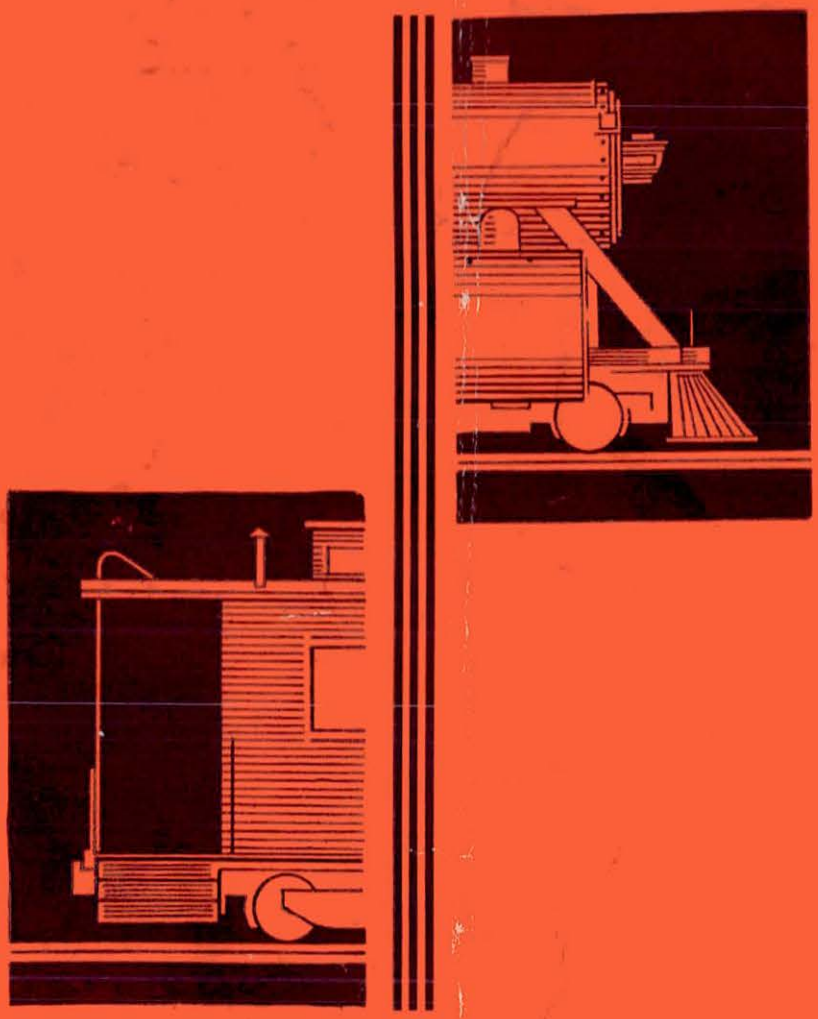

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